S
333.91
O7MR
1977

MISSOURI RIVER PRESERVATION AND DEVELOPMENT PROJECT

Historical and Archeological Resources
High Bank Erosion
Land Use Regulation

OLD WEST REGIONAL COMMISSION

Inside — Prepared for the OWRC by the Siouxland Interstate Metropolitan Planning Council

Montana State Library
3 0864 1003 1143 3

MISSOURI RIVER PRESERVATION AND DEVELOPMENT PROJECT:

Background Studies on Portions of the Missouri River, Gavins Point Dam to the Mouth of the Little Sioux River

Conducted by the
Siouxland Interstate Metropolitan Planning Council
Water Resources Section

July 1, 1977

The preparation of this report was partially funded by the Old West Regional Commission through Grant #10670235, and as such, may not be copyrighted.

Table of Contents

Item	Page
Element One: Historical and Archeological Resources of the Missouri River Valley, Gavins Point Dam to the Mouth of the Little Sioux River.	1
Section One: A General Overview of the Missouri River.	4
Section Two: The Prehistoric Period	13
Section Three: Selected Historic Indian Tribes.	34
Section Four: Exploration of the Missouri Valley.	60
Section Five: The Lewis and Clark Expedition.	73
Section Six: Early Forms of Navigation.	97
Section Seven: Steamboating on the Upper Missouri	102
Section Eight: Missouri River Improvements.	115
Section Nine: Catalog of Sites.	118
Table of Sources	255
Element Two: Missouri River High Bank Erosion Study (1972-1975), Gavins Point Dam to Ponca State Park.	260
Section One: Base Data.	265
Section Two: Per Parcel Allocation of High Bank Erosion	271
Section Three: Ownership Work Maps.	290
Table of Sources	325
Element Three: Land Use Regulation Survey, Gavins Point Dam to the Mouth of the Little Sioux River.	327
Section One: The Federal Role	330

Section Two: Nebraska Land Use Regulation 336

Section Three: South Dakota Land Use Regulation 350

Section Four: Iowa Land Use Regulation. 360

Section Five: Community Zoning and Subdivision Regulations. . . . 369

Section Six: Land Use Regulation Maps 371

Table of Sources 375

ELEMENT ONE

HISTORICAL AND ARCHEOLOGICAL RESOURCES OF THE MISSOURI RIVER VALLEY, GAVINS POINT DAM TO THE MOUTH OF THE LITTLE SIOUX RIVER

The intent of this study is to record the historical and archeological resources of the Missouri River Valley from Gavins Point Dam (river mile 811) to the mouth of the Little Sioux River (river mile 669).

Between these points the river touches ten counties in three states: Yankton, Clay and Union counties in South Dakota; Cedar, Dixon, Dakota, Thurston and Burt counties in Nebraska; as well as the counties of Woodbury and Monona in Iowa (that small portion in Iowa from Monona County south to the Little Sioux River has been excluded from consideration). To obtain an adequate understanding of the activity which has taken place along this 142-mile stretch of the Missouri, it is necessary to consider certain events occurring beyond the limits of the study area. Consequently, various sections of the report include references to other portions of the river valley, or at times to the entire Great Plains region.

Information contained within the text was collected from several sources including written and oral reports of local historians and archeologists, museum visits, and numerous written reference works. For organizational purposes this report is divided into nine distinct parts. Following is a list of those sections and a brief description of their content:

1. A General Overview of the Missouri River - This contains information concerning the river's course, physical characteristics (length, volume, etc.), evolution, history, and an itemization of its principal tributaries and major cities along its banks.

2. The Prehistoric Period - Included in this portion is a discussion of the four archeologic time intervals prior to the appearance of white men on the Great Plains.

3. Selected Historic Indian Tribes - A summary of the origins, migrations, and cultural patterns of the tribes which inhabited or significantly influenced activities within the study area following white contact is dealt with in this part.

4. Exploration of the Missouri Valley - This section is concerned with early white investigation of the river valley under French, Spanish, and American leadership, including important fur trading activities.

5. The Lewis and Clark Expedition - Organized in journal form, this portion highlights the party's actions within the study area during both 1804 and 1806.

6. Early Forms of Navigation - This consists of a brief description of several modes of river transportation prior to the advent of the steamboat.

7. Steamboating on the Upper Missouri - A discussion of steamboating on the upper Missouri, with special emphasis placed on activities in Sioux City and Yankton, is contained in this division.

8. Missouri River Improvements - Mention of the Missouri River Basin Project and the benefits it entails is made in this segment of the study.

8. Catalog of Sites - Completing the text is a numbered list of the study area's historical and archeological resources with a brief description of each. This is accompanied by a series of maps on which the sites' approximate locations have been indicated.

SECTION ONE

A GENERAL OVERVIEW OF THE MISSOURI RIVER

The Missouri, second-longest river in the United States, flows a distance of 2,315 miles from its source near Three Forks, Montana, to its mouth near St. Louis, Missouri, making it thirty-three miles shorter than the Mississippi River. However, by including the Missouri's Red Rock-Beaverhead-Jefferson River headwaters, a continuous stream is formed stretching 2,564 miles. It if were not for the historical accident that the Mississippi was explored earlier than the Missouri, geographers probably would have designated the Missouri-lower Mississippi River as the main stream, with the upper Mississippi as a tributary. The total length of the Missouri-Mississippi River, from its uppermost headstream (Red Rock) to its mouth in the Gulf of Mexico is 3,741 miles.

Over its course, the Missouri traverses seven states. It begins where three mountain streams unite in southwestern Montana to form a single tumbling river. At an elevation of 4,032 feet, the Gallatin and Madison rivers merge with the Jefferson River midway between the towns of Three Forks and Logan. From here it flows generally northward through the mountainous woodlands of western Montana, passing the Canyon Ferry Dam near Helena, and then proceeding through a 1200-foot gorge known as the Gates of the Mountains. Further on near Great Falls, the river descends more than 400 feet over a 12 mile series of cataracts to the Great Plains. Turning westward at Fort Benton, it widens at the huge reservoir above Fort Peck Dam in northeastern Montana, the first of the six large mainstem dams encountered along the river's path. For the remainder of its course, the Missouri flows across broad, nearly flat, grasslands, through which it has carved a spacious valley often flanked by steep bluffs. Near the

Montana-North Dakota border, the Missouri is joined by the Yellowstone River, its largest and most fabled tributary.

Sweeping across North Dakota in a giant arc, it bends toward the southeast near Verendrye National Monument in the western portion of the state. Downstream the river broadens at the reservoir of the Garrison Dam and flows past Bismarck, the state capital. Through South Dakota, it moves south and southeast, going by the state's capital of Pierre and providing the waters for the reservoirs of the Oahe, Big Bend, Fort Randall, and Gavins Point dams. From a point below Fort Randall, the river forms the boundary between South Dakota and Nebraska, Nebraska and Iowa, Nebraska and Missouri, and Kansas and Missouri. At Kansas City, Missouri, the largest city on its banks, the Missouri curves eastward flowing past Jefferson City, the capital of Missouri, and emptying into the Mississippi River at Missouri Point, about fifteen miles north of St. Louis. Here the river is approximately 400 feet above sea level. Its 3,600-foot change in elevation from source to mouth gives the Missouri a gradient of more than one and a half feet per mile.

The principal cities on the Missouri are Great Falls, Montana; Williston and Bismarck, North Dakota; Mobridge, Pierre and Yankton, South Dakota; Sioux City and Council Bluffs, Iowa; Omaha, Nebraska; Atchison, Leavenworth and Kansas City, Kansas; and St. Joseph, Kansas City, Jefferson City and St. Charles, Missouri.

Feeding the Missouri are numerous tributaries extending over various midwestern and Rocky Mountain states, as well as portions of Canada. Major branches include the Marias, Judith, Milk, Musselshell, Poplar, Big Muddy and Yellowstone rivers in Montana; the Little Missouri in North Dakota;

the Cheyenne, White and James rivers in South Dakota; the Niobrara and Platte rivers in Nebraska; the Big Sioux and Little Sioux rivers in Iowa; the Kansas River in Kansas; and the Chariton, Osage and Gasconade rivers in Missouri. Composing about half the entire Mississippi drainage network, the Missouri River system drains an estimated 580,000 square miles, 2,550 of which are in Canada. This drainage basin covers all of Nebraska; most of Montana, Wyoming, and South Dakota; large portions of Colorado, North Dakota, Kansas, Missouri, and Iowa; and fringes of Minnesota and the Canadian provinces of Alberta and Saskatchewan.

Near its source, the Missouri is a small rushing mountain stream, but soon it spreads out and becomes a wide waterway, in places measuring more than one mile across. As the river cuts through the mountains, it gathers sand and gravel in its waters. While many rivers, the Mississippi for example, build up a large delta with the solid deposits they carry, the Missouri drops much of the sand and gravel it transports on the bed of its channel. As a result, the river runs over a thick bed of small rock fragments and other sediment, 125 feet deep in some locations.

The Missouri River pours an average of 69,300 cubic feet of water per second into the Mississippi, though at times this dwindles to a minimum of 13,000 cubic feet per second. During flood season (from late March to early June), the river rises an average of thirty-four feet above low water and discharges up to 900,000 cubit feet of water per second. It also carries a hugh amount of silt (estimated at 1.5 percent by volume of flow), contributing 250 million cubic yards of this material to the comparatively clear waters of the Mississippi each year. This gave rise to the river's

nickname of "Big Muddy," and prompted farmers along its shores to jokingly say that its waters are "too thick to drink, too thin to plow." In spite of this, people have always considered the water from the Missouri especially pure once the silt has been removed, and many cities depend on it for their water.

Prior to the most recent period of glacier activity, the river probably flowed northeastward into Hudson Bay. When the glaciers formed, great continental ice sheets also developed. They grew thick, and flowed outward from their centers. In North America, the principal center was near Hudson Bay where ice piled up from 8,000 to 10,000 feet thick. The pressure of its weight caused the ice to move toward the south and west, spreading out over about 4,800,000 square miles. As the Wisconsin ice sheet inched down from the north approximately 115,000 years ago, it blocked the path of certain eastward-flowing rivers, such as the Missouri. Forced from its original course, the river rounded the edges of the ice sheet and cut the valley through which it now runs. When the ice finally receded (10,000-20,000 years ago), the valley's depth prevented the Missouri from returning to its former channel.

This glaciation had a literally transforming effect on the eastern half of South Dakota. The massive body of ice leveled off hills and filled in valleys, spreading over all a thick layer of glacial soil brought from every point along its route. While in numerous locations this soil was deposited in large terminal and lateral moraines that are clearly defined today, in others it formed a fertile covering conducive to agricultural production. But the ice had yet another effect. From its receding face,

the James, Vermillion and Big Sioux rivers streamed southward to join the Missouri, through a gently sloping plain left by the retreating ice.

Nebraska was not touched by the Wisconsin ice sheet, the present course of the Missouri River marking its western edge. A strip averaging seventy miles in width and paralleling the Missouri was, however, glaciated much earlier during the Nebraskan and Kansan periods. As a result, the soil composition in this small piece much more closely resembles the land across the river in Iowa, than it does the remainder of Nebraska.

Since the Missouri is believed to denote the southern limit of glaciation on the Great Plains, Iowa was affected in much the same manner as eastern South Dakota. Many similar topographic features are present near the river in both states.

Prior to the white man's arrival, Indians used the Missouri as a means of transporting themselves and their possessions. They traveled its waters in dugout canoes and baskets made of willow sticks covered with buffalo skins.

The Missouri River was one of the early northwestern trade routes and paths of colonization. French explorers Jacques Marquette and Louis Jolliet were the first white men to see and report on the river. While journeying down the Mississippi, they discovered the mouth of the Missouri in 1673. Sixty-five years later, in 1738, Pierre Gaultier, Sieur de la Verendrye, led the initial white party to the upper Missouri from a French fur-trading post in Manitoba. They returned with reports of vast herds of buffalo and of large Mandan Indian villages in present-day North Dakota. In 1769 the oldest permanent community on the Missouri, St. Charles, Missouri, was settled by French pioneers about twenty miles northwest of St. Louis.

By the end of the 18th century the lower Missouri had become well known to fur traders (primarily French), but the upper reaches of the river were virtually unexplored. However, immediately following America's purchase of the Louisiana Territory in 1803, an expedition under the command of Meriwether Lewis and William Clark explored the Missouri from its mouth to its headwaters in a journey that took them to the Pacific coast and back during the years 1804-1806. John Colter, a member of the party, remained in the Rocky Mountain area, reporting on the painted canyons, waterfalls and geysers in what is now Yellowstone National Park. Frontiersmen such as Colter became known as mountain men and trapped fur on the upper Missouri.

Lewis, Clark and other early travelers used oar-powered keelboats to haul supplies upriver. In 1819 the Independence became the first steamboat used on the Missouri. Its voyage on the lower Missouri proved that such boats could navigate the river. This success was followed by the steamer Yellowstone, which traveled upstream to the mouth of the Yellowstone River in 1832, and the Chippewa, which reached Fort Benton (Montana) on a record-setting trip in 1858. For several decades the steamboat played an important role on the Missouri, transporting such freight as fur, lumber, paper, wheat, coal and gravel. Cargo hauled reached a maximum of about one million tons in 1858. This trade was not without its hazards, as more than 300 steamers were destroyed by explosions and other accidents from the 1820's to the 1860's. Competition from the railroads led to the virtual extinction of steamboat traffic during the 1890's.

During the 1840's and 1850's the Missouri served an even more vital function, moving settlers westward. Pioneers bound for California and Oregon traveled on the river across the present-day state of Missouri and then proceeded by wagon or on horseback over the mountains, by way of the Platte River Valley. The Mormons followed the same river path on their journey to Utah in 1846-47. Following the Civil War, the Missouri was important in settling Kansas and Nebraska.

Until the 1940's little was done to improve navigation on the river or to meet the needs for flood control, irrigation and hydroelectric power. Because flooding periodically caused great destruction to homes, farmlands and population centers along the banks of the Missouri (notably in 1844, 1881, 1903, 1908, 1915, 1927, 1937, 1947 and 1952), their control was of particular importance. At flood stage the river has tremendous power. In 1937, its floodwaters formed a channel thirty feet wide with a depth in places of up to 104 feet. Two destructive floods in 1947 resulted in the loss of twenty-six lives and the inundation of about three million acres of land.

A rejuvenation of the Missouri began with the completion in 1940 of the Fort Peck Dam in Montana. It is the largest earthen dam in the world, with a volume of 125 million cubic yards; and not only controls floods, but also provides water for irrigation and the production of hydroelectric power. An ambitious long-term project for the construction of additional dams was initiated following Congressional approval of the Flood Control Act of 1944. This measure launched the Missouri River Basin Project (Pick-Sloan plan), under which were built other big dams on the upper

Missouri. These include Canyon Ferry Dam (1954) in Montana, Garrison Dam (1956) in North Dakota, and the Oahe (1963), Big Bend (1967), Fort Randall (1956), and Gavins Point (1956) dams in South Dakota. With the dams helping to regulate the river's water level, and with the development of regular channel maintenance from the mouth to Sioux City, Iowa, during the 1950's, barge traffic flourished, eventually carrying even more freight than had the steamboats of the 19th century.

SECTION TWO

THE PREHISTORIC PERIOD

Man has existed for at least ten centuries along the Missouri River. The Prehistoric Period in this area has been divided into four distinct time intervals known as traditions. A tradition consists of various sites containing similar artifacts which imply similar ways of life.

Within each tradition, a specific cultural group is called a phase, focus or culture. These groups consist of one or more sites that share a majority of characteristics. The differences between sites in a phase are of proportion, rather than of kind. By comparison, the time span and geographic extent of a phase are more restricted than those of a tradition.

Paleo-Indian Tradition

The Paleo-Indian tradition dates from about 10,000 B.C. to 4,000 B.C. This society, based on hunting, was made up of small nomadic bands. The wide dispersal of their weapon points and other tools indicates that the people, though limited to travel on foot and not known to have had any beasts of burden, may have roamed over considerable distances.

Near the beginning of the tradition, they hunted large animals such as the mammoth and mastodon. When these beasts became extinct, the big-game hunters of the Plains turned to the smaller but immensely more abundant grazing animals that remained. Their chief source of meat became the bison. The most requently hunted species is that which has been variously termed the Bison taylori, Bison antiquus or Bison occidentalis. Its body size was somewhat greater than the modern bison, Bison bison, from which its remains are most easily distinguished by superior skull size and larger, straighter horn cores.

The tools of this remote period were those used for hunting or the preparation of meat and hides. Their scrapers, knives and choppers were fashioned from a dull-colored flintlike quartz called chert, while other implements, such as awls, were made of bone. Grinding stones are rare or absent at most of these early sites; but it appears likely some use must have been made of seasonal roots, berries and seeds, as well as small game when the larger animals were not readily obtainable.

Although several types of projectile points have been found at various sites, one style, found in greatest abundance, is characteristic of the early big-game hunters. It was first found near Clovis, New Mexico, and as a result was assigned the name Clovis Fluted. These points vary somewhat in details, but all are leaf shaped, fairly heavy in cross section, with parallel or slightly convex edges and a concave base. A broad, shallow groove or flute runs along one or both sides from the base about midway to the tip. The edges above the base are usually blunted by grinding. In length, Clovis Fluted points range from one and a half to about five inches, whereas their width is approximately one-third to one-half the length. The flaking of the stone is not extraordinary in terms of either fineness or precision. It is these points that are usually found in association with the remains of the ancient elephants.

The oldest of the bison-hunting groups used a distinctive spear point known as Folsom Fluted (originally uncovered in the vicinity of Folsom, New Mexico). Generally smaller and lighter than the Clovis Fluted, they often exhibit more painstaking workmanship on the part of the flintsmith. These points are more or less leaf-shaped, broadest near the tip which is either

rounding or tapering, and have a concave base. The base commonly has two sharp rearward projections and sometimes a small nipple-like bulge in the center. Highly characteristic is a broad groove on one or both faces, running from the base for two-thirds or more of the distance toward the tip. As a result, the points have a biconcave appearance. Folsom Fluted points vary from less than one inch to about three inches in length. When completed, the points were attached to shafts and thrown with the aid of an atlatl or spear thrower. This tool provided extra leverage, resulting in the higher velocity and greater range of the weapon.

At the few Paleo-Indian sites excavated in the Plains area, no human remains have been found nor is the physical appearance of the people known. A fragmentary skull has, however, been unearthed at the Scharbauer site near Midland, Texas. Long and narrow, it is similar to other longheaded skulls found elsewhere in the New World. Since no artifacts accompanied the skull, it is impossible to assign the Midland skull to any of the early hunters, but it's believed to be between eleven and twelve thousand years old. Due to the lack of gravesites, nothing is known of these peoples' burial practices.

Most of the archeological sites in the western United States for which radiocarbon age determinations are available seem to be either older than 5,000 B.C., and therefore assignable to the Paleo-Indian period, or else more recent than about 2,500 B.C. The intervening gap corresponds to the estimated time of the Thermal Maximum (Altithermal), at which time temperatures in the region are thought to have risen while rainfall declined. These climatic alterations may have reduced the natural vegatative cover from a prairie to a desert or semidesert one, thereby compelling the larger game

animals and the people depending upon them to move to locations in the east or north where precipitation was heavier. Some of the early hunters may have followed the spreading grassland to the eastern prairie, while others possibly moved northward into the Prairie Provinces of southern Canada (Manitoba, Saskatchewan and Alberta).

Archaic Tradition

A slow cultural change brought about the Archaic tradition sometime after 2500 B.C. Existing evidence suggests the return of people to the Western Plains at this time, when a moister and cooler climate (Meditermal) was succeeding the waning drouth. Traces of these people have been found in numerous campsites, workshops and rock shelters throughout the Northwestern Plains, and have been most intensely investigated in the Wyoming/Montana region. Though not usually very productive, the archeological deposits are sometimes of considerable depth, suggesting repeated occupations of considerable duration. Present are cutting, scraping and chopping tools, as well as weapon points which are usually significantly different from those of the early hunters in form and workmanship, and show much less skill in flint-working. The most common projectile point sytle of this tradition was of triangular shape with deep notches at two corners to aid in the fitting of a handle. Just as in earlier times, the spear thrower continued to be used. Bone refuse, particularly at sites in the Wyoming area, often contains a high proportion of small animal remains and a remarkable scarcity of bison. The appearance of grinding stones suggests that the gathering and processing of seeds and other vegatation was an increasingly important aspect of the economy at this time.

The term "Foragers" has commonly been used to describe these small-game hunters and gatherers of the Northwestern Plains. It indicates a belief that the greater variety of foodstuffs evidenced may reflect a sharply reduced supply of bison following the Altithermal drouth. This may be valid for the Wyoming region, where a Forager existence seems to have persisted until the white man's arrival, but appears rather unlikely for other portions of the Great Plains. The relative abundance of bison bone and hunting tools at various locations from southern Canada to Texas indicates that throughout this area bison were still an important part of the economy, although gathering probably played a larger role during this period than it did previously.

An Archaic habitation site has been excavated on Logan Creek in Burt County, Nebraska. Four occupation levels are indicated, all believed to represent a single culture or way of life. Those artifacts unearthed include hearths (some filled with stone), medium to large weapon points with wide shallow notches, side-notched or stemmed plano-convex scrapers, milling stones, bone awls and tubular beads, and a carved bone fishhook. A wealth of animal bones, especially those of bison, have been found, as have a large quantity of freshwater mussel shells.

As with the Paleo-Indian tradition, there is no available information concerning the type of shelter utilized during this period. Being highly nomadic, it is possible that the people carried small tepees which would not necessarily leave archeological evidence.

Plains Woodland Tradition

It is not possible to determine exactly when the Woodland occupancy of the Central Plains began, or how late it ended. Discovered sites have

radiocarbon dates between 1872 B.C. and A.D. 828. Materials found at all of these, however, have their roots in older cultures widely distributed east of the Missouri River, in the lower Missouri drainage, as well as the Upper Mississippi and Ohio valleys. The occupants of the Central Plains are regarded as fringe groupings of a people more abundantly found in the Eastern Woodlands rather than traces of an earlier group(s) which passed through the region on their way to the eastern United States or southern Canada.

The Plains Woodland people are best known as a result of investigations conducted in the Central Plains, especially in Nebraska and northern Kansas. Nevertheless, it appears likely that the area they occupied included parts of the Dakotas to the north, much of Oklahoma to the south, and probably extended west to the Colorado Rockies. Archeologists have recognized several variants which are distinguished from one another by differences, often minute, in pottery styles, projectile points and other remains. Among the principal variants are the relatively advanced Hopewellian phase in the Kansas City region, the Sterns Creek focus along the Missouri River in eastern Nebraska and western Iowa, and the Loseke Creek focus in northeastern Nebraska, portions of Iowa, and southern South Dakota.

A fairly stable and fixed community life is suggested at the Hopewell village sites by their plentiful storage pits, stone-chambered burial mounds, accumulations of village debris, and diversified inventories of artifacts in stone, bone and other materials. This society was based upon hunting and gathering, with bison less important than deer, supplemented by the cultivation of crops. The earliest dated remains of corn and beans found

so far on the Plains have come from these sites which appear to have their origin in the period A.D. 100-300.

At about the time the Hopewellian communities were thriving along the Missouri, other peoples with a simpler culture emerged farther west and northwest. All of these had pottery, but squash remains near Sterns Creek and a few grains of corn in a Loseke Creek site is the only satisfactory evidence of crop-growing. Sites of both the Sterns and Loseke focuses are usually small and inconspicuous, and may be deeply buried in stream terraces.

House remains, if present, are meager and inconclusive. Shallow basins of up to fifteen or eighteen feet in diameter and possibly containing fireplaces have been found in some Nebraska sites. These might represent dwellings made of light poles covered with a perishable material of which no traces have survived. At other sites, scattered post molds and substantial quantities of reeds and bark imply small, thatched structures, similar to those constructed by Eastern Woodlands people. Storage facilities were probably provided by small pits located nearby.

Artifacts of stone and bone were primarily those used in hunting and gathering, as well as in processing the results of these activities. Stemmed projectile points, scrapers, knives and choppers were cut from stone. Grinding slabs indicate the crushing of vegetables. Grooved sandstone blocks functioned as abraders, while pebble hammerstones were used in the fashioning of tools and weapons. Awls and needles served in skin-working, and perhaps in basket making, despite the absence of conclusive evidence. For personal decoration, these people wore both plain and engraved tubular bone beads, in addition to a variety of simple shell pendants and

disc beads. Even though there is little evidence of smoking, crude clay pipes may have been in use.

Disposal of the dead was accomplished in a number of ways. Flexed bodies were sometimes buried, either singly or doubly, in small pits in or near the campsite area. More characteristic, particularly along the Upper Republican River in southern Nebraska, were burial vaults of varying size into which the dismembered remains of a number of individuals were placed. Shell ornaments and a large quantity of disc beads accompanied those interred in this fashion. In eastern Kansas and Nebraska, round-topped mounds located individually or in small groups on the bluffs flanking numerous waterways are thought to belong to Woodland peoples. These earthen and stone mounds, often several feet high and twenty or more feet in diameter, commonly have a shallow basin, or one or more small pits, under the base. Contained within the basin or pits are poorly preserved human remains, frequently quite fragmentary and fire blackened. Few or no offerings are found in association with these graves, many of which have been destroyed by erosion.

As is true of the sites to the south, traces of Woodland peoples in the Dakotas are widely scattered and not readily noticeable. The sites, usually small and inadequately defined, are made even more difficult to locate by the fact that they are sometimes deeply buried. Consequently, little is known of these people, their handicrafts, or their way of life. Thick cord-roughened potsherds and medium to large stemmed or corner notched projectile points have been excavated in several areas. Some of these locations are on buttes and other high points, from which a good deal of land could be kept watch over for game or enemies.

For the most part, these artifacts are believed to parallel Woodland materials to the south and east, probably dating from before A.D. 500 or 800. They imply the presence of small groups, probably without maize horticulture, living in simple, impermanent lodges. Their subsistance economy was based on hunting and the gathering of fruits, seeds, roots and other wild vegetable products. Information on the Woodland tradition in this area is difficult to obtain as many of the sites have been destroyed by flooding or construction activities.

A later variant of the Woodland culture, quite similar to the Loseke Creek focus in east central Nebraska, has been investigated by the University of South Dakota at sites along Scalp and Ellis creeks, situated on the right bank of the Missouri approximately twelve miles west of the community of Lake Andes. Here there was evidence of repeated habitation over an extended period. Artifacts unearthed suggest that an actual fusion of such a Woodland culture with later peoples having a different cultural inventory may have occurred at this location.

While the period during which people of the Woodland tradition occupied the Plains is still inadequately understood, it appears significant for several reasons. For one thing, it witnessed the introduction of pottery. The typical piece of this time was a simple conical-shaped vessel with thick walls. It was shaped by hand from local clays. Following formation, the containers were hit with a cord-wrapped paddle to compact the clay. Simple decorations consisting of impressions were added prior to firing. Differences as to shape and decoration indicate which part of the period an individual piece was from. At any one time, all groups,

bound by cultural norms, kept their particular pottery vessels within certain guidelines of form and decoration.

Much more important, however, is the fact that during this stage of development the people of the region took up the cultivation of crops, thus initiating the change from simple food-collecting to a more advanced food-producing economy. This gave the Woodland's people a more secure hold on the land than that experienced by any of their predecessors.

Central Plains Tradition

Sometime after A.D. 1000, but definitely several centuries prior to the first white man's arrival, the Plains Woodland people were replaced by others whose artifact inventory was usually much more extensive and varied.

Here, too, several regional variants have been designated, each possessing certain features that distinguish it from the remains found in other localities. The Upper Republican phase in western Kansas and Nebraska is possibly the most well known. First recognized in the Republican River Valley of southern Nebraska, it is also found to the south and is widely distributed throughout the Loup River drainage basin to the north. Within an eighty mile strip along the Missouri in eastern Nebraska and northeastern Kansas is the Nebraska phase, known across the river in western Iowa as the Glenwood culture. All of these variants may be included in a broader classification, the Central Plains tradition.

Highly distinctive of all these people are remains of substantial earth-covered dwellings. These were usually square or rectangular in design, with rounded corners and covered entrances, ten to twenty feet in length,

facing away from the predominant winter winds. The size of each house ranged from 25 to 45 feet long per side. Located in the center of the floor was a simple, unlined fireplace used for cooking and heating. Midway between the fireplace and each of the corners was a sturdy post, or else two or more closely-set lighter posts. Additional closely-set smaller posts along the edge of the floor supported the outer portion of the roof and the top of the wall. The house frame was covered with a layer of reed and grass which, in turn, was capped with a single thickness of sod. In the east, these structures usually stood in and over deep holes, with the floor from two to five feet below ground, while in the west, the pits were shallower or entirely absent. One or more subfloor pits were located in each lodge. These, like modernday cupboards, were for the storage of tools, grain, pottery, dishes, etc.

Villages display little or no evidence of planning. In the Nebraska phase they consisted of houses strung along the crest of ridges and bluffs. Other settlements may have been dispersed on lower terraces, where their remains are now obscured by slope wash or other factors. Upper Republican villages were usually on creek terraces where the topography allowed more freedom in the location of the lodges. Generally, they consisted of single houses, randomly scattered at intervals of a few yards to several hundred feet, or of clusters of two to four dwellings, similarly separated from other such clusters or single units. Village size varied from one or two lodges to about one hundred residences. The larger communities were more common during the latter portion of the tradition, near the time of the first white contact.

The adjacent creek bottoms and ravines provided ample garden space for these small settlements. Here the residents grew plots of corn, beans, squash and sunflowers in the rich alluvial soils. Crop surpluses were kept in the storage pits beneath the lodges. Milling stones, used for crushing corn and other vegetables, have been found frequently at Kansas sites, less so in Nebraska.

Central Plains people had a comparatively rich material culture, as indicated by the finding of many stone and bone artifacts. Scrapers and knives of chert were used for butchering big-game animals and preparing their hides, while long, grooved pieces of sandstone, found in pairs, were utilized in smoothing and shaping arrow shafts. A greenish-colored diorite was used in house-building and woodworking, while bone was fashioned into fishhooks, whistles, and personal ornaments. Along the Missouri, where larger fish were available, Nebraska phase people also utilized a harpoon with a head of bone or antler. Bison shoulder blades were shaped, sharpened and notched for use as hoes or shovel-like garden tools. Pipes were made of stone among the Upper Republican people; whereas in the Nebraska phase, there are curved clay pipes, sometimes with human faces or other shapes molded on the bowl, as well as various stone pipes.

Pottery was abundant among the groups of the Central Plains tradition. Upper Republican potters generally made large, round-bottomed jars with cord-roughened exteriors and thick, wedge-shaped rims which were often engraved on their outer surface. Nebraska phase containers were usually globular with low outward rims. The exteriors were either left smooth or processed with a cord-wrapped paddle. Small handles were frequently attached to

the rims of Nebraska phase vessels but are commonly lacking on Upper Republican pieces. Where Nebraska phase potters came into contact with alien peoples, as in southeastern Nebraska and northeastern Kansas, the pottery sometimes carried decorative engravings on the vessel bodies, and small animal effigies on the rims.

Projectile points were small and triangular in shape, quite unlike those most characteristics of the earlier Woodland hunters. The points were side-notched near the base to facilitate the attachment of arrow or spear shafts.

Various methods were implemented in the disposal of the dead. Among Upper Republican peoples, the corpse appears to have been exposed for a period and the dismembered bones subsequently buried in large communal pits located on the bluffs above the villages. Broken pottery, identifiable with that present in the village sites, is sometimes found in association with the graves, as are small numbers of shell beads, pendants and occasional chipped bone artifacts. In the Nebraska phase, the burial practices are not very well known. It seems likely, however, that here too the body was exposed and later interred haphazardly in or under low mounds, or small natural elevations.

About half a dozen sites, believed to have been occupied during the latter portion of the 15th and the early 16th centuries, have been discovered along the Missouri River in central South Dakota. They show some similarities to both the Upper Republican and Nebraska phases with regard to artifacts and housing design. However, existing differences are of sufficient magnitude to preclude any definite conclusions of an Upper Republican-Nebraska phase migration to the north.

South Dakota findings show experimentation with the square house. Although the basic frame, sod covering and entrance passage were the same as those in Nebraska, evidence shows a gradual rounding of the square corners and a bulging of the walls. This eventually brought about the round dwelling. These circular lodges, with minor variations, were characteristic of all houses in Nebraska and South Dakota from the middle of the 16th century into the historic period.

Near the end of the Nebraska phase, and closely related to it, was the St. Helena focus. The artifacts from these sites, located in the extreme northeastern part of Nebraska, exhibit the same basic features as those comprising the Nebraska phase. Differences exist only in the proportion of styles, the result of regional variation.

It appears evident to archeologists that the prehistoric earthlodge dwellers of the Central Plains were in contact with people of a different culture with whom they undoubtedly traded and intermarried. The animal-effigy pottery handles and particular types of Nebraska phase engraving resemble those more commonly found farther east and suggests an exchange of ideas. People were known to live along the east side of the Missouri above Kansas City in villages that included dwellings similar to those of the Nebraska phase. They cultivated maize, beans, squash and sunflowers with shell hoes and buried their dead in mounds or hilltop cemeteries as did people to the west. Their pottery was fashioned in a number of styles and commonly contained animal-effigy handles.

To what extent some of the prehistoric settlements east of the Missouri influenced the Central Plains tradition is not clear. Consideration should

be given, however, to an important society that thrived in northwest Iowa for a lengthy period which may have begun before the Upper Republican and Nebraska phases assumed the form by which they are most widely known. This is the Mill Creek culture, symbolized by fifteen habitation sites along the Big and Little Sioux rivers and a number of their lesser tributaries. These villages are typically small, composed of an oval or rectangular refuse heap encompassing less than two acres of land and ranging in depth up to twelve feet. The people are believed to have resided upon the mounting trash heap, but the design of their houses have yet to be determined. Each village seems to have consisted of from ten to twenty lodges. In contrast to the lack of defensive structures characteristic of the Nebraska phase, artificial trenches, probably backed by a row of stakes atop an earthen embankment, protected these communities.

Excavations of the refuse mounds have yielded vast amounts of animal bone, primarily bison, as well as evidence that corn, beans and other crops were cultivated. Tools fashioned from bone, including the shoulder-blade hoe, are plentiful, as are chipped and ground stone, antler and shell artifacts. Prosperous communities, with an ample food supply, are indicated. This, in turn, gave rise to a relatively well-developed arts and industries. Perhaps this comparative affluence eventually necessitated the construction of the defensive works found at some of the sites.

Pottery recovered from the lower levels of some of these sites is similar to that found in areas of the lower Missouri, while in the upper levels it resembles middle Missouri pottery wares. As C. R. Keyes suggested in his work, "Prehistoric Indians in Iowa," the Mill Creek sites appear to

be the "remains of a culture that was in the process of change from a former home in the south to a new habitation area on the edge of the northern plains." There are general similarities to a number of the Central Plains communities, but even more striking ones with prehistoric villages in the Dakotas.

The Mill Creek culture is estimated to have begun about A.D. 800 and lasted until shortly before the white man's arrival. While it is not possible to positively associate these sites with any historic tribe, some have speculated that they represent the location from which the ancestral Mandan commenced their journey into the Plains and up the Missouri to their historic home in the Dakotas. It has also been suggested that perhaps the Omaha descended from Mill Creek people.

Prior to the decline of the Nebraska phase, another culture, the Oneota aspect, was moving westward across Iowa as early as A.D. 1200. Characterized as a Prairie rather than a Plains entity, Oneota materials occur primarily in Iowa, southern Minnesota, Wisconsin, Illinois and Missouri. West of the Missouri River, in eastern Nebraska and northeastern Kansas, only half a dozen sites have been excavated, with none of these more than fifty or sixty miles from the river.

In the western Oneota sites, there is a considerable variation in the area of occupation. The Leary site in southeastern Nebraska covers nearly one hundred acres, while the Fanning site in northeastern Kansas occupies less than fifteen. Refuse heaps were found in some abundance, as were cylindrical and bell-shaped storage pits. Traces of fortifications or other earthworks are absent; however, Oneota people are known to have

sometimes buried their dead in nearby mounds erected by earlier peoples. No cemeteries have been discovered; but at the Leary site, the bodies appear usually to have been placed full length in single graves located in unoccupied areas in or near the village. Few or no mortuary offerings accompanied the corpse.

The substantial quantities of rubbish present at the sites indicate a lengthy and concentrated period of habitation. Earthlodge remnants have been found, yet they seem to have been rather rare, with the usual dwelling a less sturdy structure of poles and mats conforming to the eastern style of wigwam.

Growth of corn, beans and other crops, which were tilled with the bone hoe, constituted part of the Oneota subsistence economy while hunting and gathering made up the remainder. Bones of deer and bear generally outnumbered those of bison. Unlike their western contemporaries who used curved fishhooks, Oneota people fished with straight hooks of bone or chipped stone.

While their artifacts generally parallel those fashioned by the western groups, most sites appear to contain much less bonework than do those to the west.

Manufacture of pottery was a significant activity of the Oneota aspect, and its goods are usually easily distinguishable from those produced by other cultures of the Central Plains. Typically the clay included a considerable quantity of pounded or burned shell. The characteristic piece was a full-bodied vessel ranging in capacity up to several gallons. It had a round base, a narrow neck, an outcurved rim with a smooth or notched lip,

and two or four handles placed in the angle between the rim and the body. Decorations varied to some extent but frequently included a number of the following: vertical, horizontal or diagonal carved lines, downward-pointing chevrons, blocks of round punch marks, short dashed lines of engraving, and concentric circles or curved lines.

A number of Oneota sites, both east and west of the Missouri, have yielded limited amounts of white-contact goods. Therefore, while it is not possible to determine how far back into the prehistoric period the culture extends, it may be concluded that some of the villages were inhabited when the Europeans arrived. In the east, much of the Oneota material is centered in areas where information indicates that specific historic tribes dwelt. West of the Missouri, the situation is unclear. The Leary site resembles those in northern Iowa and Minnesota; but there is no evidence of white contact, and it is not known if any historic tribes resided there.

It seems evident that the Oneota aspect developed somewhat late, but it is uncertain as to exactly when. The presence of square earthlodge remains at the Leary site implies that its residents may have had limited contacts with Upper Republican or related prehistoric peoples. In addition, occasional pieces of pottery unearthed at Nebraska phase sites appear to show an Oneota influence.

It is not known what eventually became of the prehistoric residents of the Central Plains. Since no traces of white contact have been found at any Upper Republican or Nebraska phase sites, it may be assumed that their villages were given up by A.D. 1500, fifty years or more before the first Europeans came to the region.

The reason for this abandonment is not completely understood. Some archeologists have ventured that the arrival of nomadic hunting tribes, possibly the Plains Apache in the 15th or early 16th centuries, may have been responsible. These people, if numerous, warlike, or in need of food, would have found the relatively defenseless farming settlements a tempting prize. If forced to surrender or trade their stored food, the villagers may have retreated to the east, collecting into larger towns for mutual protection and subsequently evolving into the Pawnees and other tribes of history. Similarly, it has been suggested that the Oto developed from the Oneota aspect.

Another opinion, based upon the fact that much of the territory occupied by people of the Central Plains tradition lies in a region of low, unpredictable rainfall and that many of the western sites are covered with thick layers of wind-blown soil, sees drouth and its negative effect on farming as a possible explanation. It is unlikely that the small prehistoric gardens could have withstood the high temperature and hot winds accompanying drouths in this area, any better than did the cornfields of the Eastern Plains tribes during the severe drouths of the 1860's and 1870's. A lengthy and widespread drouth may have forced the large herd animals, such as bison, to move to areas of greater rainfall, thus further depleting the food supply. Some sites in northeastern Nebraska show a fusing of Upper Republican and Nebraska phase materials, in addition to other articles commonly thought to belong to a later period. This might possibly mean that when the Western Plains for some reason became undesirable, the prehistoric farmers travelled toward the east and northeast in search of better watered lands.

The prehistoric period cannot be conveniently ended. Although the first known Europeans reached that portion of Nebraska along the Missouri River in 1739, there is some suggestion that traders were in the area by 1714. It is entirely possible, however, that unrecorded traders visited the region a few years earlier. Therefore, assuming white contact is used to differentiate between the prehistoric and historic periods, one could infer that the prehistoric period concluded in this stretch of the Missouri during the first decade or two of the 18th century.

SECTION THREE

SELECTED HISTORIC INDIAN TRIBES

The Arikara

The earliest of the historic inhabitants of what is now South Dakota were the Arikara, or Ree, Indians. Arriving late in the 16th century, they became the northernmost tribe of the Caddoan linguistic family. In that tongue, the tribal name derived from ariki, meaning "horn" or "elk," with the plural ending "ra" attached.

Their origin can be traced to a home on the Southwestern Plains where, at some early date, they were a division of the Skidi Pawnee. Eventually these people parted, the Skidi settling on the Loup River in Nebraska and the Arikara continuing in a northeasterly direction to the Missouri River. From Omaha northward, they built large well-fortified villages; planted gardens of beans, corn, squash, and tobacco; and hunted bison along the river to supplement their vegetable diet. Apparently a long and severe drouth was the major factor in their migration up the Missouri River Valley from the Central Plains of Nebraska and Kansas to the central part of South Dakota, where they reached the peak of their cultural development.

The Arikara were influential in disseminating agricultural knowledge among the Indians of the upper Missouri. Maize always played a vital role in both their economy and their religion. Based upon the fact that corn developed in South America and Mexico, it seems likely that the Arikara's understanding of the crop resulted from their interaction with southern tribes. Their corn was a somewhat peculiar variety; the ears small with exceptionally nutritious kernels. They preserved the seed for spring planting in skins hung near the fireplaces of their lodges. When spring came, the seeds were examined closely, and only those showing signs of

germination were used. A number of the finest ears were saved for ritualistic usage, after which they were considered "holy." Arikara corn had great commercial value, and other tribes of the upper Missouri came each year to trade bison skins and fine furs for it. As a result of the plant's prominence in Arikara culture, the tribe became known in the sign language of its neighbors as the "corn-eaters."

As a non-nomadic people, the Arikara were compelled to achieve a high degree of self-sufficiency, satisfying most of their needs from the raw materials at hand. They fashioned their tools and other implements from the bones of hunted animals, while their pottery vessels were moulded of clay taken from deposits along the riverbank. An excellence was evident in their baskets, which they wove in a manner typical of Indians who dwelt along the Gulf of Mexico. Likewise, they were skilled in dressing and decorating animal skins, and in adapting them to various uses. In addition to their trade in corn, the Arikara bartered other surplus vegetables and a type of tobacco distinctive to them for meat products, skins and buffalo robes.

As a result of engaging in this exchange, the Arikara, along with the Mandan, served as intermediaries in the introduction of horses to the upper Missouri Valley and the region eastward. Their buffalo hunts took them to the Black Hills area in the 1760's, where they acquired horses from a number of western tribes. The horses they obtained were, in turn, a significant item of barter in their trade with the Teton Sioux, who were migrating into the region from the east.

The Arikara usually located their villages on high terraces along the Missouri to utilize the protection provided by the deep ravines and the riverbed. On the unprotected sides, a stockade of posts was constructed behind four to five-foot trenches. Inside these fortifications were their earthlodges, which usually consisted of from fifty to two hundred. Originally square, the lodges eventually were built in a circular form with a rounded top, probably because such a structure could be more easily heated from a central fireplace. The hut's frame was made of poles set in the ground, around which sod was sloped. At the height of a man's head the poles were bowed toward the center, and covered with skins, dry grass and soil. A hole in the side served as a door, and recesses around the interior of the walls, with robes draped in front, formed the sleeping cubicles. The size of the dwellings varied, some accommodating up to three families. Near each lodge were refuse heaps containing pieces of pottery, projectile points and scrapers which have proved invaluable in studying Arikara culture. In each settlement a large community house was erected in which celebrations and council meetings were held, particularly during the long, cold winters. During the 17th century, their period of greatest prosperity, the Arikara commonly maintained twelve communities, although at one time they may have had as many as thirty-two villages and four thousand warriors. Rising pressure from the Sioux and other enemies after 1700 forced them into fewer villages, which tended to be larger and more compact.

By the end of the 18th century, the Arikara were on the verge of extinction. Warfare and disease, primarily smallpox, reduced the tribe to

only two villages. Due to their weakened condition they were compelled to alter many features of their former organization. Following the arrival of white fur traders to the upper Missouri, further deterioration took place, until in 1823, the Arikara villages were temporarily abandoned. Nine years later they were given up permanently when the tribe joined the Mandan, who resided on the banks of the Missouri in present-day North Dakota.

Remains of an Arikara village have been found in the Lake Mitchell area of South Dakota, where one of the lodges was rebuilt in 1939. Pieces of broken pottery, garden tools and animal bones are among the material unearthed here. In 1950 several sites along the Missouri were excavated prior to their being inundated by the reservoirs created by the Fort Randall and Oahe dams. An expedition, under the direction of the Smithsonian Institution and the University of South Dakota, removed many artifacts for preservation and study, some of which are now housed at the University of South Dakota.

The Sioux

The Indian tribes which are most closely associated with the plains of the upper Missouri are those of the Sioux or Dakota Nation. They are members of the Siouan linguistic family, as are the Crow, Omaha, Iowa, Mandan and other related tribes which occupied portions of southern Minnesota, northwestern Wisconsin and northeastern Iowa, when the first Europeans arrived. There is evidence suggesting that originally the Siouan peoples inhabited the Ohio Valley. Prior to the discovery of America they were forced from

this location by the Iroquois and separated into smaller groups, some moving eastward, other to the west. The largest group to undertake a westward migration were the Sioux.

Information recorded by French priests in Wisconsin during the 1640's provides the earliest positive knowledge concerning the Sioux. At that time they resided in the timberland west of Lake Superior near the headwaters of the Mississippi. In their own language they were known as Dakota or Lakota, derived from koda, the Siouan term for friend, and denoting "an alliance of friends." The name by which they are commonly known, Sioux, comes from a Chippewa word meaning "snake" or "enemy." In as much as the early French explorers were in closer contact with the Algonquin, of which the Chippewa were a branch, it was a shortened form of the Chippewa name that passed into the white man's language.

By the middle of the 17th century the Sioux Nation had expanded into seven main divisions, differentiated primarily by distinctions in dialect. Of these seven tribes, four--the Wahpeton, Sisseton, Mdewakanton and Wakpekute--were known collectively as the Santee. The remaining divisions were the Yankton, the Yanktonnai and the Teton. Comprising the Teton tribe were the following seven subtribes or bands: Oglala, Brule, Two Kettle, Sans Arc, Blackfoot, Hunkpapa and Minneconjou. Of these, the Oglala is most likely the oldest, with the others branching off from it when it became too large.

According to early French maps the Santee divisions, which dwelt in the wooded and marshy lands east of the Mississippi, were known as the Sioux of the East; while other divisions ranging over the prairies across the river were fittingly referred to as the Sioux of the West. Shortly after

the Sioux were first visited by the whites, they began to move from the headwaters of the Mississippi, eventually arriving in the Minnesota River Valley. As a result of constant pressure from the Algonquin to the north and tribal expansion necessitating a greater food supply, the Western Sioux gradually drifted westward until they reached the spacious plains of the Missouri Basin.

Prior to about 1670 the fierce Sioux warriors usually emerged the victors in their periodic conflicts with the Cree, a branch of the Algonquin. This changed, however, when the Cree were supplied with guns by both the French and the British. The Yanktonnai, which lived nearest the Cree, were undoubtedly affected the most. However, one of its subtribes, the Assiniboin, remained on friendly terms with the Cree and actually dissolved all connection with the Sioux to join them permanently.

When the Yanktonnai found themselves unable to resist the Cree attacks, they started a southward retreat, forcing a similar movement among the Yankton and Teton divisions. As the Yanktonnai moved up the Minnesota River, their offshoot, the Yankton, advanced into that portion of Minnesota from the Blue Earth River to the Pipestone Quarry. The Teton also occupied the prairies westward from the Blue Earth.

Sometime later, probably after 1735, the Sioux of the East (Santee) were likewise pushed out by a neighboring tribe, the Chippewa, who were well stocked with guns while the Santee still relied on the bow and arrow and stone weapons. Proceeding toward the southwest, they evacuated the wooded parts of northern and eastern Minnesota, crossed the Mississippi, and eventually occupied the lower valley of the Minnesota River.

Santee tradition suggests that the declining availability of buffalo was the primary reason for the Teton migration toward the Missouri River. On foot, the Oglala and Brule (both Teton subtribes) wandered westward in numerous small bands, entering the James River Valley of South Dakota during the first half of the 18th century and reaching the Missouri around 1760. Some fifteen years later, the Oglala crossed the Missouri and rapidly spread out over the country to the west.

Following the Oglala across the Missouri, the Brule resided along the White River south of the Badlands in western South Dakota. As a result of the plentiful supply of buffalo in the region and the subtribes' acquisition of horses, these southern Teton Sioux soon became well established in this area west of the Missouri. Shortly thereafter, their presence was felt by the tribes in the Black Hills and the Arikara inhabiting the lands near the Missouri and Cheyenne Rivers.

The northern Teton subtribes, as well as the Yanktonnai drifted across the territory from the headwaters of the Minnesota River, most likely arriving at the Missouri shortly after the Oglala. Arikara villages prevented a northern Teton crossing until 1795, when the former's northward migration opened the area. First of these Teton bands to cross the river appear to have been the Minneconjou. Unlike the Oglala and the Brule, many of the northern Teton subtribes located their camps on the east bank of the Missouri until after 1800.

While the Yanktonnai took over as their hunting grounds the country between the Missouri and James Rivers, as far north as the Teton lands; the Yankton roamed over the Lower James Valley while carrying on their hunting

and trading activities. Their arrival forced the relocation of several tribes in the area. The Omaha and Iowa, who then occupied the north bank of the Missouri above the mouth of the Big Sioux River, retreated southward into Nebraska. Likewise, the Ponca, an offshoot of the Omaha, were affected but managed to retain some territory near the mouth of the Niobrara, where they erected a well-fortified settlement.

Despite the wide separations between the several distinct Sioux divisions, practical considerations continued to attract them toward Minnesota, which remained the major source of firearms and other European goods until the first years of the 19th century. The Santee had maintained a distribution point for such goods on the Minnesota River since about 1700, and each spring it served as the location of a Sioux trading fair. Following their establishment in the west, the Teton subtribes, even though they then had horses, refused to travel so far to obtain traders' merchandise. Therefore, a new, more centrally located trading fair was instituted on the James River in east central South Dakota. Here the Teton met each spring with the Yankton, Yanktonnai and Santee tribes to exchange buffalo robes, antelope-skin shirts and leggings, and horses, in return both for native articles such as walnut bows and red stone pipes and for guns, kettles and other commodities of European origin which had been acquired from white traders. According to one such trader, at times from one thousand to twelve thousand warriors could be found at the Sioux market place. The fair also served to maintain a spirit of community among the various tribes by providing an opportunity for them to meet in council, partake in festivals and religious ceremonies, and repledge their loyalty to each other.

A striking change was evidenced in the culture of the Sioux as a result of their migration westward. Originally their's had been a Woodland existence. Although keeping small gardens, they subsisted primarily from hunting and gathering. Their principal mode of transportation was by boat; and their dwellings, erected on pole foundations, and covered with earth and bark, were of a typical woodland design.

After abandoning the wooded country for the wide prairies of the Missouri Valley, the Sioux traveled mostly by land. They adopted a new diet consisting primarily of buffalo and prairie vegetation. Instead of stationary lodges, they utilized light, highly mobile tepees constructed of poles and skin. It has been suggested that the transition from woodland practices to nomadic buffalo hunters may have been completed in a relatively short period, something under fifty years. New weapons (guns), a new means of transportation (horses), and a new environment (the Great Plains) all collaborated to convert the Sioux into typical Plains Indians.

The Sioux made up a sizeable portion of the Great Plains Indian population, possibly as much as one-sixth in 1780. Of these, the Teton subtribes comprised a majority. At the height of its power, the Sioux Nation exercised dominion over a territory extending from the Republican River in Kansas and Nebraska westward to the Rocky Mountains and north to Canada.

Many anthropologists feel that the Teton Sioux constitute the highest order, both mentally and physically, of Plains Indians. They are believed to have been some of the bravest and most competent warriors on the Northern Plains. Generally, they made war to enlarge or defend their

hunting grounds, to obtain horses, or to gain personal honor. Due to their daring nature and ability with horses, the Teton bands were a formidable enemy to both whites and other Indians.

For the Teton the first years of the 19th century were a period of emense well-being. A plentiful supply of game provided amply for a population that possibly quadrupled during the years 1800-1825. Their strategic location gave them a crucial position in the fur trade of the upper Missouri. As trappers and buyers, the Teton Sioux profitted greatly from this activity, receiving a large supply of metal tools, utensils and luxery goods in return for their pelts.

In 1862 the tribes in Minnesota fought a fierce war with the whites of the region. Scouts and soldiers pushed the Indians back into South Dakota, broke up their encampments, and herded them into settlements near several army posts along the Missouri River. Five years later a treaty was signed in which the Sioux agreed to retire to reservations by 1876. Reservations were established in 1868, and the Indians were removed to them as the homesteaders arrived in the newly-opened Dakota Territory. Violations of the 1867 treaty by the white man resulted in a series of bloody battles that did not cease until the 1890's.

The Pawnee

Of the historic tribes, the Pawnee were the most prominent in Nebraska. When Lewis and Clark ascended the Missouri River in 1804, they were the largest native tribe of Nebraska Indians, numbering as many as 10,000 members. Their name is of somewhat uncertain origin, although it probably derives

from Pa-rik-i, meaning "horn," as a result of the peculiar manner in which Pawnee men dressed their hair. The braves shaved their heads except for a narrow strip of hair from forehead to scalplock, which they stiffened with paint and fat to stand erect like a horn. Other authorities maintain that the word translates as "hunter." They called themselves, however, Chahiksi-cha-hiks, "men of men."

Actually the Pawnee were a confederation of four Caddoan (linguistic family) bands, each of which earlier occupied one or more separate communities: the Chaui or Grand Pawnee with their villages on the south bank of the Platte; the Kitkehahki or Republican Pawnee on the south side of the Republican River; and Pitahauerat or Tapage Pawnee on the Platte near the Grant Pawnee; and the Skidi or Wolf Pawnee on the Loup fork of the Platte. Shortly after 1804 these groups came together on the banks of the Loup River and were united as the Great Pawnee Nation.

Tribal origins, like the name, are shrouded in obscurity. Not even their own traditions agree completely, and some elements of their language, customs and beliefs may be traced to the Southwest, while other appear Southeastern in nature. Some tribal historians claim that the Pawnee never lived anywhere but on the Platte River in Nebraska, perhaps descending from prehistoric peoples of the Upper Republican Phase. Others feel that the Pawnee's inclusion in the Caddoan linguistic family indicates that they were part of the general northward migration of Caddoan tribes during the latter stages of the prehistoric period.

Sometime around A.D. 1200 the population of the Caddoan villages in east Texas increased till the settlements began crowding one another for

living space. Under such conditions some of the weaker tribes must have been forced from their holdings. They sought new lands either across the Mississippi River to the east or on the rivers to the northwest. This movement may have been hastened by the great drouth that blanketed the entire Southwest during portions of the 13th century. The Skidi division crossed the Mississippi to the southeast, while the remaining three tribes of the Pawnee Nation went north to the western side of the Missouri Valley in northeastern Kansas and southeastern Nebraska.

From the Southeast, the Skidi found their way to the upper reaches of the Ohio River. When the Irequois began pressuring them from the northeast in about 1650, they packed up hastily and left for the western lands. About a hundred and fifty miles down the Ohio, they joined the Omaha tribe with which they had built up a friendly understanding over the years. Within the next two years the Iroquois attacks reached this area near the mouth of the Wabash River, forcing both the Skidi and the Omaha further down the Ohio to its confluence with the Mississippi and on north to the west bank just downstream from St. Louis. The Skidi with their Omaha friends crossed the Missouri near its mouth and proceeded north through unoccupied lands until they reached the villages of the Iowa and Ponca tribes near the Des Moines River. Leaving the Omaha, the Skidi moved on at once to the west, crossing the Missouri at Council Bluffs and reuniting with those Pawnee who had come up from the south about four centuries earlier.

A state of almost continuous war existed between the Pawnee and their Indian neighbors. They are known to have raided as far east as the Missouri, as far south as Texas, north into the Dakotas, and as far west

as southern Colorado and parts of New Mexico. These feuds reached a climax during the summer of 1873 when a large hunting party of Pawnee was surprised and defeated by twice the number of Sioux. This proved to be the last great battle between Indian tribes on American soil and took place in southwestern Nebraska.

Conflict rarely occurred between the white man and the Pawnee. In fact, during the Sioux-Cheyenne War and following two massacres in August of 1864, a company of Pawnee scouts were enlisted to take the field against the warring tribes. Groups of Pawnee also protected those building the Union Pacific Railroad through Nebraska from attacks by hostile Indians.

Despite the hunting and fighting aspects of their culture, the Pawnee were essentially farmers. They raised corn, beans, mellons and tobacco in the river bottoms. Each family had from one-fourth to one-half acre of ground, to which it had the first claim as long as the land was cultivated. Wild fruit and game constituted the remainder of their diet. Agricultural implements consisted of stone or flint spades, and hoes made from bison shoulder-blades. Each June the Pawnee went off on their seasonal buffalo hunt, leaving the crops to tend for themselves until they returned in September.

The Pawnee were the only Great Plains tribe to practice human sacrifice. This too was related to their agricultural lifestyle. Periodically, though not annually, they took the life of one of their own maidens. The chosen victim was tied to a platform and killed by arrows. This offering was made to the Morning Star, usually when the corn was planted in the late spring. It was hoped the sacrifice would lead to the harvest of a bumper crop.

As is true of other agricultural peoples in the Missouri Valley, the Pawnee lived in permanent settlements. The characteristic dwelling was a communal earthlodge, consisting of a frame of four or more center posts with rafters covered with brush and dirt. They were built in circular form from 25 to 60 feet in diameter; the covered entrance, usually extending toward the east or southeast, was about one-half the house diameter in length. The floor was excavated slightly below ground level, and an opening cut in the center of the roof served as a smoke hole for the fireplace directly below. While hunting the Pawnee lived in skin tepees associated with more nomadic tribes.

Tribal organization was based upon village communities representing subdivisions of the tribe. East village had its name, its shrine containing a medicine bundle of sacred objects, and its priest, as well as its heredity chiefs and leading men. The tribe was held together by ceremonies relating to a common cult in which each village had its place, and by the tribal councils made up of the chiefs of the various villages which rendered final decisions in military and civil problems. In a similar manner the Pawnee Nation was governed by a grand council composed of the councils of the tribes.

Within the village and while hunting, the women did most of the work and generally experienced a difficult life. There were, however, some compensations as Pawnee custom called for property ownership solely by the women, and descent of the chieftainship through the exiting chief's sister.

Several factors, primarily the white man's diseases and liquors, served to drastically deplete the Pawnee population. While there were from

10,000 to 12,000 tribal members in 1838, by 1861 only 3,400 remained in the Nebraska area. Largely responsible for this decrease was a cholera epidemic in 1849, which killed half of the Pawnee Nation.

As the result of a series of treaties with the United States, the Pawnee had, by 1857, assigned all their lands in Nebraska to the Government, except a tract on the Loup River where their reservation was established. In 1875 they ceded this reserve and were removed to Indian Territory in Oklahoma. This move proved to be quite difficult for the tribe and caused many deaths. Four years later, in 1879, there were only 1,440 Pawnee, and by 1906 their number had dwindled to 649.

The Omaha

The Omaha, long ago called Maha, belong to the Dhegiha group of Siouan linguistic family, along with the Ponca, Quapaw, Osage and Kanza tribes. One by one each of these tribes left their ancestral home near the confluence of the Wabash and Ohio rivers. Last of all to depart were the Omaha, who accompanied by the Skidi Pawnee, made their way to the mouth of the Ohio and then up the Mississippi River to the west bank just below St. Louis. The name Omaha means "going against the current," and derives from this upstream voyage on the Mississippi.

Once the Omaha crossed the Mississippi they found the whole lower Missouri Valley awaiting them. The Omaha, along with the Skidi, crossed the Missouri near its mouth and went north to the Des Moines River where they reached the villages of the Iowa and Ponca. While the Skidi departed this area, the Omaha, Iowa and Ponca remained for several years. From here

the three tribes made their way overland to the Red Pipestone Quarry area of Minnesota. In Minnesota they found the pressure from the Sioux too great to endure and retreated westward. At the mouth of the White River in South Dakota, they separated, the Ponca continuing westward to the Black Hills while the Omaha and Iowa headed south and settled on Bow Creek in northeastern Nebraska. This probably occurred in the last half of the 17th century. While the Iowa eventually crossed the Missouri into the state that now bears its name, the Omaha advanced down the river and established themselves on an extensive tract of land in eastern Nebraska, where they maintained permanent residence for approximately two hundred years. The early 19th century saw them occupying the bluffs along the Missouri River north of the Platte to Sioux City.

Seriously hit by smallpox in 1802, the tribe recovered measurably. Their population increased from 300 in 1802 to 600 in 1804; in 1829 it was estimated at 1,900; and in 1843, at 1,600. During the reign of Chief Blackbird in the late 18th century the Omaha seem to have been a strong warlike tribe, striking fear into the hearts of their neighbors and the occasional white traders who passed this way. During the early 1800's, however, frequent attacks by the Sioux as well as pressure from the white man steadily reduced their will and their ability to defend themselves. Consequently, in 1854, they ceded to the Government all of their land west of the Missouri, except 300,000 acres in northeastern Nebraska, which was kept as a reservation.

The Omaha lived primarily on game, supplementing this diet with corn and possibly other vegetables. Their lodges, constructed of earth, were not

occupied the year round. When the tribe traveled westward in the early spring and late fall on their communal buffalo hunts, they lived in small skin tepees.

As is true of some other Great Plains tribes, the Omaha were polygamists; however, they limited the number of wives a man could possess to three. They were ruled by two principal chiefs, each having different areas of responsibility. In addition there was a body known as the Council of Seven which deliberated on important tribal matters.

The Ponca

The Ponca probably represent the same culture as the Omaha and appear to have lived with them in the Ohio Valley for some period of time. Uncertainty exists concerning their date of separation, with estimates ranging from 1390 to the middle of the 17th century. While some believe that the Ponca accompanied the Omaha on their voyage down the Ohio and up the Mississippi, others feel they parted company at an earlier date and were reunited on the Des Moines River sometime after 1650. At any rate, they migrated north together to the Red Pipestone Quarry in Minnesota. From here they later headed westward into the Dakotas. At the confluence of the White and Missouri rivers, the tribes again separated, the Ponca continuing westward to the Little Missouri River and the Black Hills.

Apparently finding conditions in the Black Hills unsuitable, the Ponca made their way to northeastern Nebraska where they were reunited with the Omaha. The date of their arrival is somewhat obscure, but it seems likely that it was at least by the beginning of the 18th century. Juan Baptiste

Munier is credited with having "discovered" the Ponca at the mouth of the Niobrara River in 1789; however, they appear on Le Seur's map of the region made in 1701. Here the Ponca lived until removed in 1877 to facilitate white settlement. Ponca hunting grounds extended west along the Niobrara, where they met several Sioux bands, principally the Oglala and Brule. Initially the Ponca were friendly with them and jointly they often battled the Pawnee. Later, however, the Ponca, like the Omaha, came under almost constant attack from the Sioux. Originally numbering about 1,000; Lewis and Clark recorded that the ravages of smallpox had reduced their population to a mere 200 by 1804. They increased to 600 in 1829, and 800 in 1842. In 1874, just three years prior to being placed on a reservation, the tribe had 733 members.

During the early Territorial period the Ponca lived peacefully, cultivating the rich valley of the Niobrara. As is true of the Omaha, the Ponca followed a way of life similar to other semi-sedentary tribes of the region. They dwelt in earthlodges and skin tepees; depended on both agriculture and hunting for their subsistence; and made pottery, tools and weapons from local materials. By 1856, however, the white man was crowding them, and two years later a treaty removed them to less fertile lands further west. Here the Ponca suffered a miserable existence for several years, until in 1865 the Government allowed them to return to the lower Niobrara. Once again settled, they returned to farming and soon prospered.

The Ponca did not long retain their possession of this property. Once again the white settlers were clamoring for additional land and, in 1876, Congress provided for the Ponca's removal to Indian Territory in Oklahoma "with their consent." As only a few members of the tribe could be persuaded

to leave the Niobrara, another act was passed in 1877 forcing their unwilling departure. Of the 700 Ponca who left the Nebraska reservation, nearly one-quarter died within two years, a tragedy attributed to poor climate and homesickness.

The Iowa

The Iowa (also Ioway), along with the Oto and the Missouria, comprised the Chiwere subdivision of the Siouan linguistic family, and probably sprang from a common Winnebago stem. At some indefinite prehistoric time, political and social disagreements caused the Chiwere tribes to leave the Winnebago near Green Bay, Wisconsin, and proceed toward the southwest. Crossing the Mississippi, they eventually reached the Iowa River. While the Oto and Missouria elected to continue on, the Iowa chose to settle along the river. They subsequently moved to the region near the Okoboji Lakes, and were located on the Des Moines River when the Omaha migrated northward through Iowa during the last half of the 17th century. After remaining near the Des Moines for several years, the Iowa accompanied the Omaha and Ponca to the Red Pipestone Quarry region of Minnesota. Repeated pressure from the Sioux forced all three tribes westward. In South Dakota, at the mouth of the White River, the Iowa and Omaha tribes left the Ponca and continued to Bow Creek in northeastern Nebraska where they settled. Soon thereafter the Iowa abandoned this area, crossing the Missouri into the current state of Iowa. Apparently they later returned to Nebraska, as Lewis and Clark reported their occupancy in 1804 of a single village (population 800) located eighteen leagues (fifty-four miles) up the Platte.

They referred to themselves as Pahodja, which translated as "dusty noses." The Sioux, however, called them Ayuhwa, a name the French twisted to Iowa, signifying "sleepy ones." This was a somewhat apt description for the Iowa exhibited a good deal of apathy as far as hunting and farming were concerned, usually exerting no more effort than necessary. By the mid-1880's the Iowa had been removed to a reservation in southeastern Nebraska and northeastern Kansas, which they shared with two other tribes.

The Oto and Missouria

As previously related the Oto, Missouria (also Missouri), Iowa and Winnebago were one tribe at some time during the late prehistoric period. While on a great hunt they decided to separate near Green Bay, Wisconsin. While the Winnebago remained, the Oto, Missouria, and Iowa pushed on toward the southwest and eventually reached the Mississippi near the mouth of the Iowa River. At this point the Oto and Missouria left the Iowa and continued westward to the confluence of the Missouri and Grand Rivers.

Here a wide gap was created between the tribes when the son of the Oto chief raped, or at least seduced, the daughter of the Missouria chief. The young man's tribe was dubbed Oto, deriving from the work Wat'ota, meaning "lechers." Consequently the Oto moved up the Missouri River to a point twenty miles north of the Platte; and the Missouria proceeded to the lands below the Kansas River, where they subsequently were driven out by the Sauk and Fox.

When Lewis and Clark ascended the Missouri, the Oto were found on the south side of the Platte, about thirty miles from its mouth. At that time

the Missouria were living in small villages south of the Platte, downstream from the Oto. These tribes were never very large or important, and when first observed by white travelers seem to have been much less highly developed than some of the other tribes in the region. Lewis and Clark spoke of the Oto as being almost naked, having no covering except a breechcloth, with a loose blanket or painted buffalo robe thrown over the shoulder. Later greatly diminished by war and disease, the Oto migrated westward into Pawnee country on the Platte River. They lived for a time under Pawnee protection and here were amalgamated with their one-time friends but recent enemies, the Missouria.

Their village on the Platte consisted of two hundred earthlodges, each thirty to forty feet in diameter and facing the river front. Gardens filled the subirrigated bottom lands, while grazing fields could be found to the rear of the settlement. The Oto assigned part of their lands to the Government in 1833, and another part in 1854. With the advance of the white settlers, the Oto were conveyed to a reservation in southeastern Nebraska, near Beatrice, which they surrendered in 1881, when they were removed to the Indian Territory. Although the Missouria as a tribe never ceded any land to the Government, they were a party to the Oto transactions of 1833 and 1854. In 1881 their lands were confiscated along with those of the Oto, and they too were sent to Oklahoma. As is true of so many tribes, removal to the reservation must have been difficult for these people. In 1836 the Oto and Missouria numbered 1,600, but by 1906 this had been reduced to 390.

For the most part neither the Oto nor the Missouria were warlike or aggressive. They seldom harmed whites unless thwarted in their attempts to

avert starvation by stealing food. Where they did prove troublesome, the threat was not so much to life as it was to property. While these tribes obtained much of their sustenance from the soil, they relied to some extent on the bison, and it was their custom to go on a hunt twice a year.

Of Oto tribal practices, none were more unique than their method for disposing of the dead. Using no coffin, they placed the corpse in a sitting position within a grave about four feet in depth, with a hole at the top only large enough to allow insertion of the body. The deceased's relatives moaned loudly while the old women of the tribe, who dug the grave and whose responsibility it was to officiate at the burial, set a layer of heavy sticks and a buffalo skin over the tomb's opening and piled earth upon it. At times a brightly decorated pony was strangled near the grave and left to be devoured by the wild animals. Subsequently its skull was placed atop the grave mound, and a portion of its tail or mane was fastened to a pole beside the gravesite. Sometimes, particularly when the soil was deeply frozen, the Oto refrained from burying their dead. Two ancient oak trees stood near each other within the Oto reservation, the branches and forks of which were filled with the mummified remains of men, women and children. These were securely wrapped in skins, old blankets, or bark, and bound with rawhide strips to prevent their dislocation during even the most violent of storms.

The Winnebago

In the general prehistoric movement of Siouan speaking peoples toward the west, the Winnebago, for some unknown reason, were left behind. After the Iowa, Oto and Missouria parted company with them near Green Bay, Wisconsin,

they were the sole Siouan tribe in the region. Surrounded by Algonquian bands, they managed to maintain friendly relations with them, even the warlike Fox and Kickapoo. This demonstrated their skill in diplomacy, as well as their natural tolerance and willingness to adopt the customs of their neighbors in order to keep the peace. While they never abandoned their ancient religious beliefs, the Winnebago culture reflects both Siouan and Algonquian influences. Despite their peace-loving nature, they were not weak or easily dominated, often displaying great courage in battle.

The Winnebago initially maintained amicable trade connections with the French. When French activity in the area declined, they were slow to shift their loyalty to the British, but when they did their allegiance was strong, fighting bravely for England during the War of 1812. In the Black Hawk War of 1832, the Winnebago had the misfortune of living near the warring Sauk and Fox. This resulted in their removal from Wisconsin to a reservation on Cedar Creek in northern Iowa. The change from woodland to prairie climate caused much suffering within the tribe. A move in 1846 transferred them to the Prairie Reservation near Crow Wing, Minnesota, from which they were later taken to Blue Earth, Minnesota.

Following the Sioux uprising in Minnesota during 1862, the white settlers demanded the expulsion of the Indians. While it does not appear that the Winnebago were active participants in the outbreak, they too were forced to move. They were conveyed westward several hundred miles and in return for their fertile lands in the Minnesota River Valley were given a home on the wastelands of central South Dakota. Instead of transferring the Winnebago straight across country, they were transported by several steamboats. Put

on board the Favorite and other boats at Mankato on the Minnesota River, the tribe was taken down the Mississippi to the Missouri, and up that river to the mouth of Crow Creek, twenty miles above the present site of Chamberlain, South Dakota. The distance by water was 1,900 miles, against about 300 direct land miles. Upon their arrival a reservation was laid out, the required agency buildings erected within a stockade. This place was named Fort Thompson, in honor of Clark W. Thompson, the Superintendent of Indian Affairs for the region who personally supervised the work of locating the Indians on the new reservation.

Conditions here were terrible and food was in short supply, resulting in the illness and death of many Indians. As their number dwindled, the Winnebago saw escape as the only alternative to extinction. They slipped away in small groups during the severe winter of 1863-64. Traveling over the snow-covered plains, they eventually found their way to the Omaha reservation in Thurston County, Nebraska. Of the 2,000 who had left the Crow Creek reservation, only about 1,200 survived the journey. Originally the Winnebago intended to go down the Missouri and then up the Mississippi to the location of their former lands in Iowa, or perhaps to their ancestral home in Wisconsin. However, while sheltered by the Omaha in order to tend to their sick and wounded, the Winnebago were discovered by government agents. By a treaty of 1865 the leading men of the Omaha sold a strip of their reservation to the Government, which in turn deeded it to the Winnebago as a permanent home, in exchange for cession of their land in other states. In 1874 an additional tract along the northern boundary of the Omaha reservation was turned over to the Winnebago. A portion of the tribe is housed on a second reservation, located in Wisconsin.

The Winnebago called themselves Hotcangara, signifying "people of the real or big speech." Winnebago, itself, is an Algonquian word meaning "people of the filthy water." How they acquired this name is unknown, but both the French and English used it.

SECTION FOUR

EXPLORATION OF THE MISSOURI VALLEY

The earliest known reference by a white man to the Missouri River took place in 1541 when the Spanish expedition led by Francisco Vasquez Coronado marched northeastward from the Rio Grande Villey to an area in the central portion of the present-day state of Kansas. Here Indians told Coronado of a great river to the north which flowed in a southeasterly direction. At that time it was correctly supposed that this was part of the Mississippi system; however, more than a century passed before the first Europeans were to see the Missouri River.

In July of 1673, as the French explorers Louis Joliet and Father Jacques Marquette paddled down the Mississippi below Piasa Rock (Alton, Illinois), they suddenly heard the "noise of a rapid" which proved to be the mouth of the Missouri in flood. The Indians of the area provided the frenchmen with fragmentary information concerning the Pekitanoui River, as the Missouri was then called because of its muddy water. Joliet and Marquette were followed in the 1680's by La Salle who reached the Gulf of Mexico and claimed the whole of the Mississippi River and the land drained by its tributaries for France.

While the French were the first to probe the interior of the Missouri Basin, their initial recorded ascension of the river did not occur until more than forty years after its discovery. In 1719 Du Tisne traveled upriver as far as the mouth of the Grand River in Missouri. Five years later, Etienne Veniard de Bourgmont, in extending Du Tisne's line of march, reached the High Plains in western Kansas where he built a trading post.

Exploration of the upper Missouri commenced in 1738, when Pierre Gaultier de Varennes, the Sieur de la Verendrye, a French fur trader from

Canada, led a party of fifty-two persons southward to visit the Mandan Indians who he was told lived by a "Great River of the West." Leaving Winnipeg on October 18, a series of tiring marches over the prairie brought them to their destination among the Mandan (in North Dakota) on December 3. La Verendrye and his company thus became the first Europeans to attain the upper reaches of the Missouri River. Soon thereafter, La Verendrye returned to Canada, arriving in February, 1739.

Le Verendrye's interest in investigating the Missouri Basin led to a second expedition, but warfare between several Indians tribes in the region precluding his active participation. In his stead, he sent his sons, Francois and Louis-Joseph, who were accompanied by two experienced explorers. On the initial leg of what was planned to be a quick dash to the Pacific Ocean, they reached the Mandan villages on May 19, 1742, after an uneventful journey of twenty days. The party spent the next two months gathering additional information about the area from the Indians, and on July 23, left on an extended exploration of the Northern Plains. It was not until July 2, 1743, after an absence of fifteen months, that they returned to their home in Canada.

It is not easy to determine with any measure of certainty the route traveled by the second La Verendrye expedition. Due to the vagueness of the party's journal, identification of Indian settlements and various geographic locations is largely a matter of guesswork. There is, however, indisputable proof that during the early part of 1743 the La Verendrye brothers reached the west bank of the Missouri River in central South Dakota. A leaden plate affirming this fact was unearthed at Fort Pierre

in February, 1913, and is now housed in the South Dakota State Historical Society's museum in Pierre.

When the La Verendryes fell into disfavor with the French government in 1744, their explorations ceased, but their previous work could not be discredited. The geographical knowledge acquired in the course of their travels was soon incorporated onto French maps of the region. Of particular value was their observation that the Missouri had no western outlet, but flowed southeastward toward the Gulf of Mexico.

During the period between the two La Verendrye expeditions, the first recorded exploration of the study area took place. In 1738 eight French merchants under the direction of the Mallet brothers, Pierre and Paul, ascended the Missouri in hopes of opening a trade route between the French on the lower Mississippi and the Spanish at Sante Fe. Their belief that the Missouri would guide them to New Mexico illustrates the general lack of knowledge concerning the Central Plains at that time. The party journeyed to the mouth of the Niobrara, where they spent the winter of 1738-39, before realizing their error.

Leaving the Niobrara on May 29, 1739, the Mallets moved southwestward, and after four days of travel reached a broad river which they named the "Platte." A twelve-day trek up the Platte brought the French traders to a location well above its north and south fork. Here they turned toward the south, reaching Sante Fe on July 22. It is possible that the party's decision to proceed overland was influenced by information received from Oto or Panimaha (Skidi Pawnee) Indians who apparently knew the route to New Mexico.

Under provisions of the Treaty of Paris, signed in 1763 following the French and Indian War, France conveyed her possessions west of the Mississippi to Spain. This cession, which ushered in a thirty-eight year period of nominal Spanish rule over the upper Missouri, brought no immediate change to the region. Still preoccupied with their holdings on the lower Mississippi, the Spanish sought to strengthen their position by establishing in February, 1764, a settlement on the site of St. Louis from which to gain exclusive control over the fur trade with neighboring Indian tribes. St. Louis experienced phenominal growth, eventually becoming the center of fur trading activity for the entire Mississippi Basin. The settlement, as well as the fortifications constructed at the mouth of the Missouri, served to prevent the English from playing an active role in the fur trade of the lower Missouri Valley.

The upriver country, on the other hand, received virtually no Spanish attention during the first two decades following the Treaty of Paris. Consequently, some British traders entered into the lands along the Minnesota River, while other came from the north to the Mandan villages over the course followed by the La Verendryes. This British infiltration not only diminished Spanish profits in the region, but also constituted a persistent threat to their authority. Initially the Spaniards hoped to protect their upper Missouri holdings against English intrusions with a string of forts along the Mississippi, seeking especially to block trespassers from the mouths of the Des Moines and Minnesota rivers.

To Spanish officials, the British entry into the Mandan territory posed an even greater threat than did their illegal trading activities

nearer the Mississippi. Due to their limited understanding of the Missouri River, the Spanish still believed in 1785 that its headwaters lay beyond the Rocky Mountains, just to the north of the source of the Rio Grande. Should the British succeed in establishing themselves on the upper Missouri, it was assumed that they could easily travel these waterways to Spanish-controlled New Mexico. Coincidental to this British advance, the Russians initiated a southward migration down the Pacific coast toward California, an event that did nothing to calm Spanish apprehensions.

These fears of foreign aggression from the north roused Spain to action. Her response was implementation of a policy of protective expansion. To secure the outlying territory, it was thought necessary to move up the Missouri and find the passageway to the Pacific Ocean. Accomplishment of this objective might afford the Spanish with an opportunity to acquire the loyalty of the region's Indian tribes, establish trading posts, eject intruders, and supply protection to the endangered lands.

During the last half of the 1780's, while the Spanish government was still considering potential actions, the fur trading interests at St. Louis took a more positive approach toward the upper Missouri. By that time trade among the Indian tribes of the lower Missouri Valley had become so overcrowded that it was felt essential to expand into the north country.

In 1789 the first Spanish trader in the upriver territory, Juan Munier, led a large expedition up the Missouri to the fortified Ponca village near the mouth of the Niobrara. The following year Jacques D'Eglise, under a license permitting him to hunt on the Missouri, ascended the river all

the way to the Mandan villages in North Dakota, taking with him some goods for trading purposes. A Frenchman living with the Mandan told D'Eglise of extensive British trade activity in the area. D'Eglise, in turn, transmitted a report to the Spanish colonial officials in October, 1792, which seemed to confirm their fears concerning English encroachments.

The Company of Explorers of the Upper Missouri, commonly called the Missouri Company, was organized during May, 1793, and licensed by the Spanish government a few months later. It was hoped that the Missouri Company would accomplish two objectives; establishment of a trade monopoly with the Mandan, and removal of the British from Spanish territory. In June of 1794 the directors of the new company commissioned an expedition led by Jean Baptiste Truteau to proceed to the Mandan villages and set up an agency. On August 25, the party camped near the mouth of the Big Sioux River in what is now Union County, South Dakota. Continuing upriver past the James River, they finally reached the Ponca village above the mouth of the Niobrara. Although Truteau's band successfully eluded this tribe, they were not so fortunate further upstream. After passing the White River, they encountered a group of Yankton and Teton Sioux who virtually held them captive and helped themselves generously to their supplies. Following release by the Sioux, Truteau determined that it was too late in the year to proceed northward to the Mandan settlements. Consequently, his group retreated downstream to look for a suitable place to pass the winter. They eventually selected the east bank of the Missouri above Fort Randall, where a log cabin was constructed in November.

While a portion of the group returned to St. Louis the following spring, Truteau and a few men set their course northward toward the Mandan. Although Truteau failed to reach his destination, he returned to St. Louis in 1796 with considerable information concerning the topography and Indian tribes of the upper Missouri Valley.

In the spring of 1795, the Missouri Company sent another expedition up the river, apparently much larger than that headed by Truteau, with instructions to join the initial party at the Mandan settlements and proceed westward to the Pacific Ocean. When this second expedition failed to progress beyond the Niobrara, a third, under the command of James Mackay, was dispatched from St. Louis in the latter part of the summer of 1795 with a large store of merchandise. Expected to require six years for full execution, the objectives of the mission were to establish trade with all tribes in the upper reaches of the Missouri, discover all the unknown parts of the Spanish territory west to the Pacific, and construct military posts wherever required to protect the trade against the British.

Due to the lateness of the season, Mackay was forced to pass the winter among the Oto above the mouth of the Platte. Here his forces built a small fort where a group of men stayed to trade with the Oto, while the remainder of the party advanced up the Missouri to the Omaha village of Tonwontonga near present-day Homer. Somewhere between the village and the river they erected a large fort (Fort Charles) armed with cannon in the corner towers. One of Mackay's expedition was sent upriver to make contact with the Arikara near the Grand River and provide for peaceful passage to the Mandan the following year, but the hostile nature of the

Sioux in central South Dakota made completion of this task impossible. During the early part of 1796, a second attempt to reach the Mandan was begun. It concluded successfully in September when Mackay's emissary arrived at the Mandan settlements and took over the British trading post for Spain. While the Spanish succeeded in ejecting the British, their hope of discovering a passageway from the Missouri to the Pacific remained unrealized.

Mackay's return to St. Louis in 1797 ended Spanish exploration of the upper Missouri, but by that time their traders were engaged in fairly regular activities up the river. This came to a close, however, on October 1, 1800, when in the secret Treaty of San Ildefonso, Napoleon forced the Spanish to return Louisiana to France. His plan of rebuilding a French empire in North America soon proved unworkable and on April 30, 1803, a treaty was signed under which the United States received all of Louisiana for $15,000,000. Following this purchase, Thomas Jefferson authorized Lewis and Clark's investigation of the newly-acquired territory. With that act Jefferson realized a personal dream held for more than twenty years, that of American exploration of the region beyond the Mississippi.

Prior to reaching agreement on the acquisition of Louisiana, Lewis and Clark were briefed on the expedition which would take them from St. Louis to the Pacific coast of Oregon. Preparations proceeded rapidly, and Lewis was in Philadelphia receiving instruction in astronomy and the biological sciences when word of the April treaty reached him. On August 30, Lewis loaded his special equipment on several large boats and headed to St. Louis, picking up Clark and several others at Louisville. Winter quarters

were established opposite the mouth of the Missouri, where they awaited the spring thaw that would open the river to navigation.

The forty-five man party entered the Missouri on May 14, 1804, and headed upriver in three boats. Upon reaching the Pacific Ocean in the late fall of 1805, they found that the ship which was to meet them there had previously departed. Consequently, they wintered near the shore and began retracing their steps to St. Louis the following spring.

After the return of Lewis and Clark in 1806, fur trade on the upper Missouri greatly intensified. In 1807 Manuel Lisa, an experienced trader who previously maintained a trading post in Sioux territory, made the first of his many trips up the Missouri and Yellowstone rivers to the mouth of the Big Horn. His plan was to go where beaver was plentiful and where the goods he had to trade were scarce. The upper reaches of the Missouri was such a place, and the pelts he bought there for just a few pennies were worth two to three dollars in St. Louis.

Part of the American plan to gain control over the western fur trade included entrance into Oregon. Prime promoter of this venture was John Jacob Astor, who organized the Pacific Fur Company in the summer of 1810. In an effort to launch the project and establish Astoria as the principal post at the mouth of the Columbia, he commissioned two expeditions, one by sea and the other by land. The overland party, known as the Astorians, was to trace Lewis and Clark's route from the mouth of the Missouri westward. Lead by Wilson Price Hunt, a partner of Astor, they set out in a keelboat from St. Louis on March 12, 1811, and arrived at the Arikara villages near the Grand River on June 12. Accompanying the Astorians on

this phase of their journey were two Englishmen, Thomas Nuttall and the naturalist John Bradbury, whose published journals contain considerable information concerning the plants, animals, and topography of the area. Numerous reports describing the unfriendly disposition of the Blackfoot tribe in Montana led Hunt to abandon his original plan of following the Missouri and Yellowstone rivers. He obtained over one hundred horses and proceeded overland from the Missouri toward the Rocky Mountains on July 17.

Although the Astorians reached Oregon the following May, Astor failed in his attempt to establish the fur trade in that region under American dominion. The British arrived shortly after the founding of Astoria and eventually acquired control of the post.

When the Hunt party left St. Louis in March of 1811, Manuel Lisa became concerned that their competition might cause him serious difficulty when he returned to trade on the upper Missouri. Hastily he acquired a boat, assembled a crew, and set out after the Astorians, who had a nineteen-day lead. Pushing his men to the limit, Lisa cut the margin to five days by the time they reached the mouth of the Platte. When the two parties were united in central South Dakota, it was determined that Lisa's group had ascended that portion of the river in two weeks less time than other man-powered vessels. That fall Lisa returned to St. Louis, again setting a record by going from the Arikara village near the northern boundary of South Dakota to the confluence of the Missouri and Mississippi rivers in just fourteen days.

The War of 1812 created a crisis for the American fur traders on the upper Missouri. It not only threatened total suspension of trade, but in

addition provided British traders with a chance to win the loyalty of the Sioux and other tribes in the region. In this contest to wrest control of upper Louisiana from the United States, the British succeeded in gaining the assistance of the Santee and Yanktonnai Sioux, as well as the Winnebago and other Indians.

Fully aware of these British activities among the Indians of the Northwest, the American government named Manuel Lisa subagent of the tribes along the Missouri above its confluence with the Kansas River. Soon after Lisa's appointment in the summer of 1814, rumors reached the Santee Sioux near the Mississippi River that Lisa was organizing the fierce Teton Sioux bands from the Missouri into a war party against them. While this proved untrue, Lisa reported that by war's end forty chiefs were aiding him in planning an expedition of several thousand warriors against those tribes with British allegiance.

Following ratification of the Treaty of Ghent which ended the war with Britain, the United States held council with many Indian tribes in July, 1815, at a point above St. Louis. Manuel Lisa attended, accompanied by a delegation of forty-three chiefs and headmen from the loyal tribes along the Missouri River. Upon conclusion of the negotiations, Lisa turned once again to upper Missouri fur trading, continuing this activity until his death in 1820.

While Lisa's Missouri Fur Company as well as the Rocky Mountain Fur Company played important roles, fur trade along the Missouri was dominated by the huge American Fur Company. Incorporated in New York by John Jacob Astor (who also owned the Pacific Fur Company) in 1808 to extend his operations

in the fur business, the firm was able within a ten-year period to control the Great Lakes and upper Mississippi territory from its headquarters at Mackinaw. It established a branch office at St. Louis in 1822, from which was directed the company's activities in the new area of operation. This region, called the Western Department, embraced the posts on the Missouri as well as the lower posts on the Mississippi and Illinois rivers.

In 1827 Astor negotiated a consolidation with Bernard, Pratte and Company, one of the more powerful St. Louis trading firms, which then assumed management of the Western Department. This was followed almost immediately by the equally important absorption of the Columbia Fur Company, which at that time was the premier transporter of buffalo robes and skins on the upper Missouri. Its managers subsequently directed the affairs of the American Fur Company in the subdepartment of the upper Missouri Valley above the Big Sioux River. Although John Jacob Astor sold his share of the American Fur Company in 1834, the enterprise he founded continued its Missouri River operations through a series of successor firms for nearly thirty years.

As fur trading grew in commercial importance following the War of 1812, the need for protection also increased. Consequently, a string of forts was established along the Missouri to secure American interests, first from the British and then from hostile Indians. The traders and military personnel were followed, in turn, by missionaries sent to minister to the various tribes, and finally by white homesteaders, whose intention was to settle the untamed valley of the upper Missouri.

SECTION FIVE

THE LEWIS AND CLARK EXPEDITION

Louisiana, as the territory west of the Mississippi River was called, was discovered by the French during the last quarter of the 17th century. In 1681-82 LaSalle made his famous exploration of the Mississippi Valley, taking formal possession of the vast region in the name of his king, Louis XIV.

At the conclusion of the Seven Years' War, France relinquished all of her American possessions, ceding Louisiana to Spain in compensation for that country's loss of Florida. France regained this area in 1800 by virtue of a secret treaty with Spain, which was then controlled by Napoleon. This greatly concerned President Jefferson, especially since it had been preceded by Spain's withdrawal of the "right of deposit" which had previously allowed for western use of the port facilities at New Orleans. As a result, Jefferson directed the United States ministers to France to enter into negotiations for the purchase of the coastal region east of the Mississippi (including New Orleans). The French instead offered to sell the whole of Louisiana. Negotiations resulted in a purchase price of sixty million francs, and release of France from payment of all debts due American citizens since 1800. (These claims were valued at approximately $3,750,000, raising the total price to $15,000,000.) This transaction, completed in 1803, tripled the size of the United States, increasing its area from about half a million square miles to not less than one and one-half million.

With great insight as to the potential of the northwest, Jefferson saw the desirability of reaching the Pacific Ocean by following the Missouri and Columbia rivers. He correctly guessed that the headwaters of these waterways could not be far apart, and began planning an exploration of their sources before the acquisition of Louisiana was complete. The money

used to outfit the expedition was obtained by Jefferson as a sort of secret service fund, and Captain Meriwether Lewis, who along with Captain William Clark headed the mission, was his private secretary.

The expedition, composed of forty-five persons, started May 14, 1804, from the mouth of the Missouri River. They began the journey with three vessels; the first was a fifty-five foot keelboat, drawing three feet of water and powered by one large square sail and twenty-two oars. This was accompanied by two periogues or open boats, one of six and the other of seven oars. Two horses were led along the banks of the river, to be used in bringing home game or hunting in case of scarcity.

The following is a brief narrative of the expedition's activities within the area of this study.

Wednesday, August 8, 1804

After setting out at sunrise, the party passed through a section of the river filled with snags. The concealed timber made movement difficult, but they eventually reached the mouth of the Petite Riviere des Sioux (Little Sioux River), about six miles upriver from the previous night's camp. Called Eaneahwadepon, or Stone, by the Sioux Indians, the Little Sioux entered the Missouri from the north and was 80 yards wide at that point. Several miles above the confluence, the group camped on a long island they called Pelican, because of the great number of those birds feeding there. Captain Lewis shot one which had a bag under its neck and bill large enough to hold five gallons of water.

The previous day they had dispatched four men to an Oto village in search of two deserters, Reed and La Liberte. Small gifts were sent to

the Otoes and Missourias, accompanied by a request that their chiefs join the expedition at the Maha (Omaha) village, where a peace might be negotiated between them.

Thursday, August 9, 1804

A thick fog detained the group until past 7:00 a.m., after which they proceeded with the aid of a gentle breeze from the southeast. Upon traveling between seven and eight miles, they reached a point of highland on the left (now Nebraska), near which the river had forced a channel across a peninsula, leaving on the right a path of twelve to eighteen miles containing numerous ponds and islands. The party journeyed seventeen and a half miles during the day and camped in present-day Lincoln Township of Monona County, Iowa. Here the hills were far from the river and the lowlands on both sides covered with cottonwood and grape vines.

Captain Clark's statement of distances during this portion of the route vary so much from those shown on a Missouri River Commission map that the location of this camp, as well as those for several days following, can only be approximated. The Missouri River Commission map shows the distance from the Little Sioux River to Blackbird Hill (passed August 11) as 32 miles, while Clark's daily calculations make it 54½ miles.

Friday, August 10, 1804

The expedition, after proceeding upriver two and a half miles, came to a place called Coupee a Jacques, where the river had recently found a new channel, shortening its course by several miles. Ten miles further upstream, the party saw a cliff of yellow stone on the left. This was the first

highland near the river above the Council-bluff. (Council-bluff is near present-day Council Bluffs, Iowa.) A favorable southwest wind, supplemented by the mens' oaring, allowed them to travel twenty-two and a half miles before camping in what is now Monona County, Iowa, probably near the north end of modern Blue Lake.

Saturday, August 11, 1804

Near daybreak, heavy showers began to fall, delaying the groups departure for about one hour. After sailing five miles under a strong southwest wind, they halted on the south side (Nebraska) to examine the grave of the famous Maha chief, Blackbird, who had died four years previously of smallpox. A hill, shaded yellow by the soft Dakota sandstone of which it was made, rose from the river in bluffs of varying heights, cresting about 300 feet above the water. On top of this, a mound, twelve feet in diameter at the base and six feet high, covers the body of the dead chief. Lewis and Clark ascended the grave and hung a white flag, bordered in red, white and blue, from an eight-foot pole fixed in the center of the mound. Following the return of its captains, the expedition passed a small creek on the south, called by the Maha, Waucandipeeche (Great Spirit is bad). In a village near this creek, the Maha lost 400 of their people during the smallpox epidemic. The party camped on the north side, in a bend of the river which later became Badger Lake (Lake Township, Monona County, Iowa). During the day's seventeen-mile advance, they noticed a number of places in the crooked course where the old channel had filled in and was gradually becoming covered with willow and cottonwood.

Sunday, August 12, 1804

A gentle southerly breeze carried the group about ten miles when they stopped to take observations. These indicated that the bend on which they had been traveling since the previous afternoon was 18 3/4 miles long by water, while only 974 yards across by land. Four miles beyond this bend a bluff begins on the south (Nebraska), and continues several miles, rising from the river to various heights between twenty and two hundred feet. Consisting of yellow and brown clay, with soft sandstone imbedded in it, the bluff is covered with several species of trees, most notable of which being red cedar. The lands on the north side are low and subject to flooding, but contain willow, cottonwood and many grapes. Having made 20¼ miles that day, the party camped on a sand island in the river.

Monday, August 13, 1804

After getting underway at daylight, the expedition, aided by a breeze from the southeast, passed several sandbars. Between ten and eleven miles upstream, they came to the site of Fort Charles, a trading post operated on the south by a Mr. MacKay during the years 1795-96. Advancing three to four miles, the party reached a creek on the south side of the river, on which the Maha reside. A camp was formed on a sandbar near the south side, opposite the lower reaches of a large island. From here Sergeant Ordway and four men were dispatched to the Maha village with a flag and a gift, for the purpose of persuading them to consult with Lewis and Clark.

Tuesday, August 14, 1804

The men sent to the Maha camp returned about noon and informed the party of their journey. After having crossed a prairie covered with high grass,

they reached the Maha Creek (now Omaha Creek), along which they proceeded to its three forks near the village. The walk from here to the village was very tiresome, as the men were required to break their way through a ten-foot high growth of grass, sunflowers and thistles. At a point five miles from the river, they found the ancient Maha village. It had once consisted of 300 lodges, but was burned approximately four years earlier, following the deaths of about 400 men and a proportional number of women and children from smallpox. All that remained was a mound of graves to the rear of the village. After viewing the burial site the men crossed the Maha Creek and followed its course to the Missouri. They then recrossed the creek and arrived at the camp, having seen no footprints nor any sign of recent cultivation.

Wednesday, August 15, 1804

In the morning, some men were sent to examine the cause of a large amount of smoke seen rising in the northeast. Investigation disclosed that a small band of Seoux (Sioux) had passed through the area recently and left the trees on fire. Captain Clark and ten others went to the Maha Creek to do some fishing, neting over 300 fish of various types. A new mast was made for the keelboat this day.

Thursday, August 16, 1804

While waiting for the arrival of any Indians, Captain Lewis and twelve of the party ventured up the Maha Creek. Here they made a drag (seine) from small willows and bark. Sweeping the creek, the group brought up nearly 800 fish, including pike, bass, perch, catfish, rock-fish, red-horse and

buffalo. Some very large mussels were found, and on the river as well as the creek, different species of ducks and plover could be seen.

Friday, August 17, 1804

At 6:00 p.m., one of the group sent to the Oto, returned with the news that the rest were following with one of the deserters, Reed. They had also caught La Liberte, but, by deceit, he subsequently escaped. Three Oto chiefs accompanied them in order to use the expedition as mediators in making peace with the Maha. The absence of the Maha from their village made this impossible; however, in an attempt to attract any neighboring tribes, the expedition set fire to the surrounding prairie. This was the customary signal employed by traders in announcing their arrival to the Indians; and was also used between different nations as an indication of any event which they have previously agreed to proclaim in that manner.

Saturday, August 18, 1804

During the afternoon, the party arrived with Reed, the Indian chiefs and a French interpretor. After exchanging a few "formalities," a question arose concerning the origin of the war between the Maha and the Oto. The chiefs replied quite frankly that two members of the Missouria tribe had been caught and killed while attempting to steal horses from the Maha. Both the Missouria and Oto (these tribes being closely related) felt obliged to avenge their companions, and eventually the entire nations became involved. A group of Oto had entered a Pawnee village earlier in the summer and stolen a quantity of corn. As a result, they also feared war from the Pawnee at this time. Despite these admissions, Lewis and

Clark were still willing to negotiate a peace for them; but no Indians were as yet attracted by the fire.

After the discussion with the chiefs, Reed's trial was held. He was charged with desertion and the theft of a public rifle, shot-pouch, powder and ball. Reed was found guilty and sentenced to run the gauntlet through the party, with each man allowed nine switches. In addition to this punishment, he was no longer to be considered a member of the expedition.

The evening closed with a celebration and dance lasting until 11:00 p.m.

Sunday, August 19, 1804

The expedition met with the Indians at 10:00 a.m. Presents were distributed and a small medal previously given to Big Horse, an Oto who later became their principal chief, was exchanged for one the same size as that given to Little Thief, another chief. A small medal was given to the third chief and a certificate of acknowledgment was bestowed upon five of the warriors. When one of these warriors returned the certificate, the chiefs, fearful of offending the party, pleaded that it be restored. This they refused and reprimanded the Indians for being interested solely in trade, rather than peace with their neighbors. Shortly thereafter, all the Indians requested that the certificate be given back to the warrior, at which time he accepted it. After a more substantial gift of small articles and tobacco, the council ended with each Indian receiving a dram of whiskey. In the evening, the party astonished the Indians with many objects of curiosity, particularly the air gun, which brought them much amasement.

Sergeant Charles Floyd was taken suddenly ill this day and all attempts to relieve him have met with failure.

Monday, August 20, 1804

Early in the morning the Indians mounted their horses and rode away, each having been given a canister of whiskey upon leaving. The party then set sail under a gentle southeast breeze and traveled twelve miles before landing at the foot of the bluffs on the north side (Iowa). These were the first bluffs near the northern bank of the river since the Council-bluff, approximately 100 miles below. Sergeant Floyd had been ill all day, and it was near here that he died. While the captains diagnosed his illness as "bilious colic," modern medical authorities believe it was an infected appendix that had ruptured. He was buried atop the bluff (which they named Sergeant Charles Floyd's Bluff) with full military honors. A cedar post, on which his name and date of death were inscribed, was placed to mark the grave. About one mile upstream, the expedition camped opposite the spot where a small river (30 yards wide) joined the Missouri from the north. The mouth of this river, which they called Floyd's River (later Floyd River), is presently located within the corporate limits of Sioux City, Iowa.

Tuesday, August 21, 1804

A light breeze from the southeast carried the party past a small willow creek on the north (now Perry Creek), approximately one and a half miles above the Floyd River. Here began a range of bluffs which extended one and a half miles to the mouth of the Grand River de Sioux (Big Sioux River).

Flowing from the north, this river was about 110 yards wide where it entered the Missouri.

The wind by this time had shifted to the south, becoming so strong that the group was forced to roll and tie down a portion of the sail to avoid having it torn from the mast. Sand blown from the bars filled the air for about a mile in front of them, drastically reducing visability. Nine miles upstream from the Big Sioux, they came to the location of an abandoned Maha village. Proceeding further up the Missouri, they camped on the south side; having come twenty-four and three-quarter miles from the previous night's camp. On this date Captain Lewis noted the uniform appearance of the lands through which they have passed since leaving the Platte: rich low grounds, with vast growths of timber near the river, giving rise to wavelike prairies.

Wednesday, August 22, 1804

Aided by a hard south wind, the expedition sailed three miles against a swift current, when they were joined by the men who had been sent from the Maha village with their horses. At this point, the bluffs reaching the river on the south (Nebraska) contained alum, copperas, cobalt having the appearance of clear gelatin, pyrites, and sandstone. Captain Lewis was examining the composition of the cliff when he was injured by the fumes and taste of the cobalt. A dosage of strong medication was required to relieve him from the cobalt's effects. The existence of these substances accounted for the stomach disorders affecting the group since passing the Big Sioux River. Previously they had been using the water near the southern

shore, which was covered with a scum originating from these bluffs. This was thought to be the cause of the sickness, and subsequently the men were ordered to take their water from a greater depth and shake it to disperse the scum. As a result, their stomach problems ceased and the boils from which they had also been suffering were no longer observed.

Above this ridge of bluffs, the Missouri was fed by a small stream they called Rologe Creek (now Aowa Creek in Dixon County, Nebraska). Seven miles further upriver was another such cliff on the south. Made primarily of dark brown alum, its crevices contained large deposits of cobalt, cemented shells and red earth. From here the Missouri bends eastward, approaching to within three or four miles of the Big Sioux. After having advanced nineteen miles that day, the party camped on the north side. Here numerous traces of elk were observed, near where the present town of Elk Point, South Dakota, is located. At the end of the day, Patrick Gass was elected to replace Sergeant Floyd.

Thursday, August 23, 1804

Setting out early under a favorable wind from the south, the expedition soon traveled the four miles to a small run between cliffs of yellow and blue earth. Changing to the west, the wind increased in velocity till the sand it raised from nearby bars so limited visability that progress up the river slowed to a crawl. Three and a quarter miles further upstream, they passed a willow island, with a sand island opposite. On the north side was a broad prairie, which the expedition called Buffalo Prairie, from the fact that here they killed their first buffalo. Captain Lewis and twelve

others butchered the carcass and brought it back to the boat. The men pickled the buffalo meat and made venison jerky from three deer also killed in the area. They saw two elk swimming across the river, but their shots failed to strike them. Towards evening the wind slackened, allowing the party's advance to a point ten and a quarter miles upriver from where they began the day. There they camped on the south side, near the future location of Ionia in Dixon County, Nebraska.

Friday, August 24, 1804

During a rain shower, the party set sail at sunrise and proceeded to a blue clay cliff on the south, two and a quarter miles upstream. Standing between 180 and 190 feet high, it appeared to have recently been on fire; and even at this time the ground was so hot that they could not keep their hands in it at any depth. The air smelled of sulfer, and substantial deposits of cobalt (or a crystalline substance resembling it) were present, as well as strong indications of coal. About five miles further up the river, they passed the mouth of a stream on the north (South Dakota) called by an Indian name meaning Whitestone River (now the Vermillion River). Here the northern prairie rises to an expansive plain. After progressing three and a quarter miles, a camp was established on the south side near Lime Creek, in Dixon County, Nebraska. In the evening, the men made jerky from three deer and an elk shot by Captain Clark earlier in the day.

Saturday, August 25, 1804

Accompanied by ten men, Captains Lewis and Clark returned in one of the periogues to the mouth of the Whitestone River, where it was thirty yards

wide. Here they left the boat, and proceeded about 200 yards to where the ground rose to a plain extending as far as the eye could see. After hiking four miles, they forded the stream where its width was twenty-three yards. Four hours after beginning their march, the group reached the object of their visit, a large mound in the midst of the plain. Located nine miles north of the Whitestone's confluence with the Missouri, the seventy-foot tall mound had a base in the shape of a regular parallelogram (the longer side 300 yards in length, the shorter 60-70).

Called by the Indians "the mountain of Little People, or Little Spirits," it was the subject of much superstition on their part. They believed this mound to be the home of small human-shaped devils, eighteen inches tall with emense heads. Armed with sharp arrows, they supposedly stood guard ready to kill any intruders. The legends concerning the mound kept the Sioux, Maha and Oto from ever visiting. Though they failed to see any of the spirits, the view from the mound's crest allowed the party to gaze upon the broad plain and the distant hills. This area, still known as Spirit Mound, is located in what is now Clay County, South Dakota.

About 1:00 p.m. excessive heat and thirst forced them to take refuge on the banks of the Whitestone, three miles away. After remaining for approximately an hour and a half, they made their way to the mouth, arriving about sunset. Here they retrieved their periogue, and returned to the previous night's camp where they rested till morning. To warn the Sioux of their approach, the men set fire to the surrounding prairies.

While Lewis and Clark were journeying to Spirit Mound, Sergeant Pryor led the remainder of the party upriver six miles where they camped on the south, near the western boundary of Dixon County, Nebraska.

Sunday, August 26, 1804

The smaller group rejoined the larger party at 9:00 a.m., before they had left their camp. Together, they proceeded upriver nine miles, passing an island and coming to a white and blue earth cliff on the south. Under this cliff, on a sandbar towards the north, the expedition camped for the night. On the southern shore, a small stream, called Petite Arc or Little Bow Creek, empties into the Missouri. A short distance above its mouth were the remains of an old village of the same name. Only a four-foot high wall of earth surrounding the village was left to mark its location. Built by a Maha chief named Little Bow following a dispute with Blackbird, the village's two hundred residents rejoined the main band after Blackbird's death.

Monday, August 27, 1804

Under a gentle southeasterly breeze, the party sailed by some large sandbars to a bluff on the south side, seven and a half miles upstream. The bluff was of white clay or chalk, resting upon a limestone base incrusted with a clear substance, assumed to be cobalt, and a dark coal-like ore. As an invitation to the Sioux, the men set fire to the lands above this bluff. Five miles further upriver, they reached the mouth of the Jacques River (now the James or Dakota River). About ninety yards across at the confluence, it widens and deepens above its mouth, thus allowing navigation for a considerable distance. As they approached the mouth, a young Maha swam to the boat and informed the group that his people had gone to make peace with the Pawnees. Upon landing they were met by two Sioux Indians who told

them that a large body of their nation was camped nearby. Three of the men were sent to this Indian encampment with an invitation to consult at a spot above the river. Having traveled fourteen miles this day, the expedition camped one and a half miles above the Jacques, on a sandbar towards the north.

Tuesday, August 28, 1804

Aided by a stiff breeze from the south, the group set out early and proceeded until stopping for breakfast at a point on the south where the prairie slopes upward from the water to an 80-foot bluff, four miles away. Here the young Indian left them to rejoin his tribe. Further upriver to the north was a brownish-colored bluff, followed by Calumet Bluff on the south at a distance of eight and a half miles from the previous night's camp. In the plain at the foot of Calumet Bluff, the expedition made their camp and awaited the arrival of the Sioux. Prior to arriving at the campsite, one of the periogues was severely damaged when it struck a log, forcing transfer of its cargo to the second boat.

Wednesday, August 29, 1804

Following a violent storm during the night, the men spent most of the day repairing the damaged periogue. At 4:00 a.m. Sergeant Pryor and his party arrived on the opposite shore, accompanied by five Yankton Sioux chiefs and approximately seventy men and boys. As the Indians made camp, a boat was sent to ferry the returning members of the expedition across the river. Pryor reported that upon reaching their village, located on the banks of the Jacques River about nine miles above its mouth, his group

was met by a party with a buffalo robe, on which they wished to carry their visitors. They declined this honor, informing the Indians that they were not the commanders of the expedition. As a mark of respect, they were then given a fat dog, already cooked, which, finding it well flavored, they ate with exuberance. The lodges comprising the village were conical in shape, covered with buffalo robes and painted with designs of various colors. Each lodge, housing from ten to fifteen persons, had an opening in the top for the smoke to pass through.

When he had finished relating his story, Pryor and Mr. Durion, a son of the group's interpreter who was trading with the Sioux at this time, returned to the Indians bearing a gift of tobacco, corn and a few kettles. They informed the chiefs that Lewis and Clark would meet with them the following morning.

Thursday, August 30, 1804

After completing all preparations, the party sent for the chiefs and warriors, who arrived at noon. They met under a large oak tree, near to which flew an American flag. Following presentation of a speech by Captain Lewis, the group acknowledged the Yankton chiefs. A flag and an army officer's hat and coat were bestowed upon the head chief. The remaining chiefs were given medals, tobacco and articles of clothing. All smoked the pipe of peace, before the chiefs retired to a private council where they ate, smoked and divided among themselves the gifts they had been given. The young warriors were amused by shooting arrows at targets for beads, which the white men distributed to the best marksman. That evening all of the Indians danced until a late hour.

Friday, August 31, 1804

At 7:30 a.m., the chiefs assembled in splendid attire and sat in a row facing Captains Lewis and Clark. One by one the chiefs rose and approved what Lewis had told them in his speech of the previous day. They promised to make peace with the Oto and Missouria, the only nations with whom the Yankton Sioux were then at war. The grand chief, Weucha, whose name translated to Shake Hand, agreed to bring the Pawnee and Maha together for the purpose of ending the hostilities between them. In an effort to better understand their condition, the expedition questioned the Indians relative to the location, numbers, trade and manners of the various tribes comprising the Sioux nation. Following their conference, the white men gave a supply of tobacco to each of the chiefs, and a certificate to two of the warriors attending them.

Lewis and Clark persuaded their interpreter, Mr. Durion, to remain here and accompany to Washington, D.C. as many of the Sioux Chiefs as possible. In addition, they gave his son a flag, some clothes and provisions, with directions to use them in negotiating a peace between the neighboring tribes. He was also instructed to transport some of their chiefs to visit the President. In the evening the Indians, along with the two Durions, crossed the river and camped on the opposite shore.

Saturday, September 1, 1804

The party rose early and set sail under a light southern breeze. As they proceeded past Calumet Bluff, they noted that it was between 170 and 180 feet high, composed of a yellowish-red and brownish clay resembling

chalk. Here the hills on each side came to the edge of the river, those on the south being higher than on the north. A large timber-covered island existed on the north side at this point; above which the highlands formed a cliff over the river. Called White Bear Cliff, it was named for such an animal which reportedly was killed in one of its many deep holes. Having made fifteen miles this day, they camped near the north side, on the lower point of Bonhomme, or Goodman's Island.

Sometime on September 1, the expedition passed out of the study area. They ascended the river finding winter quarters about thirty miles above Bismarck, 171 days after setting out from St. Louis. Based upon their own calculations, they had then traveled some 1,600 miles.

During the following April, the journey upriver resumed, reaching the headwaters of the Missouri in mid-August. Late in November, 1805, they passed down the Columbia River to the Pacific Ocean in a log canoe crudely hollowed out by burning. Plans called for a ship involved in Northwestern trade to meet the party at the mouth of the Columbia, and replenish their supplies. Upon arriving, however, they found that the ship had already departed. Realizing it would be impossible to cross the mountains at this late date, the group wintered on the coast before returning the next year by the way they had come.

On September 1, 1806, the expedition entered the study area as it proceeded downriver.

Monday, September 1, 1806

The party set out early from their camp in what is now Charles Mix County, South Dakota, but were forced to put to shore for half an hour, till

a thick fog dissipated. Two hunters were sent ahead with a small canoe. At 9:00 a.m., the main body passed the mouth of the Quicurre River (now the Niobrara River). It looked much the same as it had in 1804, the water rapid and milky-white in color. Two miles below, nine Indians ran to the north bank and motioned for the group to land. Since the Indians appeared to be Tetons (a hostile Sioux tribe), they declined and continued floating downriver. They did put to shore just below in order to wait for one of their canoes that was straggling behind.

Fifteen minutes later, several shots rang out, which the party assumed were fired at those in the canoe. Captain Clark then led fifteen men on a rescue mission, while Lewis and the rest guarded the boats. Upon rounding a bend in the river, Clark was surprised to find the Indians still in the same location, and the canoe a mile away. He then stepped onto a sandbar, and when the Indians approached, gave them his hand. They accepted it and explained that they had been shooting at an old keg, previously discarded by the expedition, which was floating downstream. These Indians proved not to be Tetons, but instead part of a band of Yanktons camping on Plum Creek. The party proceeded on their course following a meeting with the Indians during which their principal chief was given a pair of leggings, and the rest a hair ribbon and some corn.

Having made fifty-two miles against a head wind, they stopped for the night on a large sandbar, opposite Calumet Bluff, where then had met in council with the Yankton two years before. The flagpole they had previously placed on the bluff was still standing.

Tuesday, September 2, 1806

At 8:00 a.m., the party passed the Jacques River, but soon had to land as a strong northeast wind made navigation impossible. They remained until sunset, by which time the wind had calmed sufficiently to allow additional travel. A camp was established on a sandbar near what later became St. Helena Island, twenty-two miles below the previous night's camp. While on shore, hunters killed three buffalo and two turkeys. The Indians were particularly impressed by the turkeys, having never seen any before. During the night a shift in the wind to the southwest swirled the sand, thus making conditions very unpleasant. It slackened, however, before the group's departure at daybreak.

Wednesday, September 3, 1806

Late in the morning the party passed the Redstone River (now the Vermillion River, which they called Whitestone on the ascending trip). Below here the Missouri was crowded with sandbars, situated much differently than they were in 1804. The expedition progressed sixty miles before nightfall, when they say two boats and several men on shore. Upon landing, they were met by a number of traders under the direction of Mr. James Airs (or Aird), a partner of the firm of Dickson and Company of Prairie du Chein, who was licensed to do business with the Sioux for one year. Much of the night was spent by the group making inquiries into what had occurred during their two-year absence. Airs and his men were very willing to answer as many of their questions as possible. In exchange for six bushels of corn, the traders gave Lewis and Clark a barrel of flour and furnished each man with as much tobacco as he could use during the remainder of the voyage.

Thursday, September 4, 1806

About 8:00 a.m. the group left Mr. Airs and proceeded downriver. Shortly before noon they passed the Grand River de Sioux (Big Sioux River), which was low compared to their initial visit. Upon reaching Floyd's Bluff a few miles below, Lewis, Clark and several of the men climbed the hill and found that the Indians had opened the grave, leaving it half uncovered. The men filled the grave before resuming their journey. They continued until reaching a sandbar near the Maha village, where they had camped for a week in August two years earlier. Here all skins, bedding, and other articles drenched by the previous night's storm were set out to dry. That night several shots were heard coming from the direction of the Maha village. The party assumed that a trader named McClellin, who they were informed was headed upriver to deal with the Maha, had arrived at the creek below, and the shots were fired by some of his hunters.

Friday, September 5, 1806

When they set out in the morning, the group failed to find any trace of McClellin. As a result, they concluded that the shooting was merely to signal the return of the Maha to their village; this being the season during which they usually came back from hunting buffalo to tend their corn, beans and pumpkins. Below the village, the river became faster, more crooked, and crowded with snags. Despite this, the party proceeded rapidly, passing Bluestone Bluff at 3:00 p.m. and camping on a sand beach a little below their August 9, 1804, campsite. On this day they advanced seventy-three miles down the river.

Saturday, September 6, 1806

Despite a strong head wind, it was decided to proceed, because the mosquitoes near the camp were so annoying that to remain would be more unpleasant than to advance, however slowly. At noon some of the hunters spotted a large flock of pelicans and shot three of them. Sometime later, the party reached the lower point of Pelican Island, a short distance above the mouth of the Petite Riviere des Sioux (Little Sioux River). Here they met a trading boat belonging to Auguste Chouteau of St. Louis. It was headed for the Jacques River (James River) area where the traders planned to do business with the Yankton Sioux. The group obtained from them a gallon of whiskey, each man receiving a dram. This was the first spirituous liquor any of the expedition had tasted since July 4, 1805. After trading goods and information, they continued downstream to a sandbar, thirty miles from their last encampment, where they spent the night.

Sometime during the afternoon of September 6, the party passed out of the study area, arriving in St. Louis seventeen days later. After firing a salute, they went ashore at noon, September 23, 1806, only to find they had been given up as lost.

This expedition is a truly remarkable feat. It is the only known voyage ever made against the current of the Missouri from mouth to headwaters with such primative means of propulsion as oars, sail, poles and tow-line. The results of the 8,000 mile journey were of immense importance. Indians were given notice of their new association with the United States, much valuable information concerning the various tribes was gathered, a

relatively accurate understanding of the North American interior was acquired, the foundations for the lucrative western fur trade were laid, and last, but far from least, it provided one of this country's strongest claims to the Oregon Territory.

SECTION SIX

EARLY FORMS OF NAVIGATION

Navigators of the Missouri quickly found out how different this river was from others they had known. Birch bark canoes simply did not last long. Early fur traders discovered that the Indians used dug-out canoes, which were tree trunks (usually cottonwood) with the inside gouged or burned out till only a thin shell was left. They were commonly as long as forty feet and could be as many as six feet wide. Two dugouts could be tied together in a parallel position separated by wooden supports a few feet long. This provided increased stability and also allowed for more cargo space when the area between the canoes was floored. Many voyages were made in these crude vessels from the headwaters of the Yellowstone River to Sioux City and even to St. Louis, two thousand miles away. More commonly, however, they were used as a means of transportation between neighboring trading posts.

Another Indian means of transportation adopted by the white traders was the bullboat. It was made of buffalo skins sewn together and stretched over a frame of willow branches and cottonwood poles. Twenty to thirty feet in length and about twenty inches deep, the bullboat had the least draft of any river craft, which made it particularly well-suited for shallow water. With a cargo limit of three thousand pounds, it saw extensive service on the Missouri, usually transporting furs downstream.

Later the mackinaw, a flat-bottomed boat constructed of cut lumber with a pointed bow, squared stern, and low gunwale, was developed. It varied from forty to seventy-five feet in length, from eight to twelve feet in width, and had a draft of six to nine inches. Originally used by French explorers in the Lake Superior region and named after the Straits of Mackinac, the mackinaw was first introduced to the Missouri early in the 19th century.

The oarsmen, usually four in number, were placed in the bow, while a steersman was perched in the stern, from where he handled the rudder and commanded the boat. Depending upon the velocity of the current for their speed, the rowers were responsible for keeping the boat in the swiftest current and deepest channel. On an average day, a well-built mackinaw could travel up to one hundred miles. Between the oarsmen and the steersman there was a four-foot deep hold, in which cargo could be piled or passengers carried. Mackinaws were cheaply made, and were intended solely for downstream navigation, usually being abandoned or sold for lumber at the end of their journey.

Even after the steamboats began operation, widespread use of mackinaws persisted. Throughout the 1860's and early 1870's, hundreds of miners came downstream from the Montana gold fields in these boats each year. The heaviest migration of mackinaws usually occurred following the close of the steamboat season.

Generally, the last steamer departed Fort Benton, Montana, by the first part of July, leaving the levee practically deserted. In the fall, however, activity in and around the Benton levee picked up once again as mackinaws were constructed and launched with some frequency. A number of the larger craft could carry up to fifty passengers. Returning miners often used these boats and sometimes transported their gold in strong boxes which had buoys attached by a heavy rope, to assist in locating the treasure should a wreck occur. It was estimated that approximately two hundred mackinaws and 1,200 passengers left Fort Benton annually during the height of the gold rush. St. Louis was the destination of those who departed Benton during the late

summer, but mackinaw navigators who left in the late fall ordinarily had to stop at Yankton or Sioux City because of ice and seek overland transportation.

Another popular boat prior to the advent of the steamboat was the keelboat, which could be built for two to three thousand dollars. They ranged from sixty to seventy feet in length, and from fifteen to eighteen feet in breadth. The vessel had a keel running from bow to stern, hence its name. Rising from the deck some four or five feet was a large cargo box cut off at each end about twelve feet shorter than the boat. Strong and substantial, the craft had four means of propulsion. Most of the time a long line called a cordelle was utilized. Attached to the top of a high mast standing in the center of the boat, it passed through a ring which was fastened by a short line to the bow to aid in guiding the boat and was drawn by twenty to forty men strung along the bank. The cordelle was connected to the mast so that it might swing free of the brush growing on the shore. At river crossings and other places where the cordelle could not be employed, keelboaters resorted to the use of poles. Cut to various lengths, they were fashioned with knobs or balls at the upper end which rested in the hollow of the shoulder. To propel the craft by means of these poles, the travelers were arranged single file on each side of the deck facing aft. Planting their poles on the river bottom pointing downstream, they pushed steadily against them while walking toward the stern. Consequently, the keelboat, yielding to the pressure, moved ahead. Oars, of which there were generally four or five per side, were relied upon in deep water where neither the cordelle nor the poles were usable. On those rare occasions when there was a following wind and a straight channel, a square sail could be used. It provided great assistance

when employed in conjunction with other means of propulsion, and at times was even sufficient to drive the vessel against the swift current of the turbulent Missouri. An entire summer was required for a keelboat to make its way upstream from St. Louis to Fort Pierre in South Dakota.

SECTION SEVEN

STEAMBOATING ON THE UPPER MISSOURI

The steamboating era on the Missouri River marked an important phase in its history, and that of the communities along its banks. In May of 1819 the Independence, first steamer to ply the muddy waters of the Missouri, carried a cargo of flour, sugar, whiskey, and iron casting 250 miles upstream from St. Louis to Chariton, Missouri. This accomplishment was heralded as a marvelous feat.

Keelboaters did not believe that steamboat traffic on the Missouri was feasible, and with good reason. As Stanley Vestal puts it in his book, The Missouri, "The trouble with going up the Missouri River in a boat is that you have to take the boat along." The Missouri was an unpredictable river with its snags, sandbars and ever-changing channel. Of the 700 steamboats operating on the Missouri between 1819 and 1900, 300 were destroyed in service, many by trees hidden under the water, or snags as they were called. Thus steamboats usually maneuvered only in the day and would tie up if a storm was approaching.

Steamboats and their captains were both a special breed. The Missouri River was the life line to the Rockies and, despite the huge losses of both boats and cargo, business was profitable. Typically, profit for a round trip ranged from about $20,000 to $40,000, but could climb as high as $80,000. Sternwheelers were more practical than sidewheelers and most steamers operating on the river were made specifically for use on the Missouri. They were flimsily built in order to keep weight to a minimum and could draft as little as 14 inches when not loaded. Due to the perils of the river and the boats' lack of sturdiness, engineers had to be able to make most any repair needed on the spot. Many steamboats could carry

200 tons of cargo even in low water and twice that amount if conditions allowed another foot of draft. Wood, picked up at various points along the waterway, was burned to power the ships.

In 1856 James A. Jackson chartered a steamboat, at a cost of more than $100,000, to haul building supplies to Sioux City. The Omaha, carrying furniture, dry goods, hardware, groceries and a sawmill, became the first steamer to dock at Sioux City. Only four steamers reached town in 1856, but during the following year 36 docked at the levee, which was located at the foot of Pearl Street.

The Sioux City and Pacific Railroad reached Sioux City in 1868, and was followed two years later by the Illinois Central. Their arrival made Sioux City a more important port than either St. Joseph or Omaha. In 1867 Joab Lawrence of Northwest Transportation Company began preparing his boats out of St. Louis for trade at Sioux City and above. By 1868 he had five steamers based at Sioux City ready for trade. He claimed that shippers who transported by rail to Sioux City, and then used Sioux City based steamboats, would save 1,000 miles, 20 days and cut their insurance costs by one-third. With cargo consisting primarily of supplies from Chicago and the east coast destined for settlements west of the Missouri, each of Lawrence's boats made two trips to Ft. Benton that first year. Passengers from Sioux City to Ft. Benton paid $150 cabin fare and $25 deck fare.

In anticipation of a good season in 1869, Lawrence doubled the size of his fleet at Sioux City. He also constructed a dry dock there for the purpose of repairing and wintering boats. The Northwest Transportation Company received contracts in May, 1869, to deliver supplies to the Indian agencies

and military installations on the upper Missouri. This agreement stipulated that the Northwest Transportation Company receive all supplies in New York and furnish transportation to the agencies by way of Sioux City. Charges for this service were based on the following rate schedule:

RATES PAID NORTHWEST TRANSPORTATION COMPANY FOR TRANSPORTATION OF FREIGHT TO UPPER MISSOURI INDIAN AGENCIES, 1869*

From New York City to:	Rate per Hundred Pounds
All points on the Missouri River between Yankton and Fort Sully, including both	$ 7.22
Fort Rice and all points between Fort Sully and Fort Rice	$ 8.72
Fort Buford and all points between Fort Rice and Fort Buford	$ 9.72
Musselshell and all points between Fort Buford and Musselshell	$10.72
Fort Benton and all points between Musselshell and Fort Benton	$11.72

*Taken from A History of Steamboating on the Upper Missouri River by William E. Lass, p. 61.

It was also during May of 1869 that the Union Pacific Railroad was completed to Utah. Although river traffic was not immediately affected by this, within a year the nature, volume, and pattern of steamboat traffic on the upper Missouri was visibly altered.

Transportation rates up the Missouri were cheaper than rail rates but railroad was faster and had a much longer shipping season. In 1867, 37 boats arrived at the Ft. Benton levee, but by 1870 the number had fallen to eight.

The railroad, however, was not the sole cause for the decline in river trade. Mining production in Montana reached a peak in 1865, when approximately $18,000,000 in gold was recovered. By the mid-1870's, Montana mines yielded a relatively meager $4,000,000 worth of the precious metal annually.

During the winter of 1870-71, Joab Lawrence sold his interest in the Northwest Transportation Company and it was reorganized under the same name. The chief stockholder in the reorganized company was the Durfee and Peck firm, which had purchased the posts of the Northwestern Fur Company after its dissolution in 1869 and since that time had handled most of the fur trading business on the upper Missouri.

The reorganized enterprise had its home office in Leavenworth, Kansas, with its general freight depot and shipping point at Sioux City. The officers of the company were E. H. Durfee, president; N. Springer of St. Louis, vice-president; S. B. Coulson of Sioux City, general superintendent; J. P. Dunlevy of Sioux City, general travel agent; and C. M. Peck of Keokuck, secretary. In 1871 they received the Indian agencies contract while their chief competitor, William J. Kountz, obtained the contract for military supplies. Provision was made that if the goods could not be transported by boat because of low water, the Northwest Transportation Company would deliver them by land routes at no additional cost. Durfee and Peck also agreed that their charges would include "free warehouse privilages at Sioux City on all goods and supplies until such time as the boats may remove them." The largest shipments of furs came downriver with the first boats of the season, the Ida Rees alone carrying a cargo of 39,000 buffalo robes. In 1871 the Northwest Transportation Company had the following boats in operation: Nellie Peck, E. H. Durfee, Far West, Esperanza, Ida Rees No. 2, and the Viola Belle.

While the spring rush did not pose a problem for the company, some winter supplies for the agencies were not received until August. The river was ordinarily very low by this time, making delivery of the goods quite difficult. If they could not be shipped up the Missouri by boat, and were urgently needed by the Indian agents, the company would be forced to pay wagon freight rates. However, if their arrival was not a matter of pressing importance, they could be stored for the winter and delivered the following spring. Such being the case, a reporter for the Sioux City Journal reported on February 14, 1872, that there were 6,729 sacks of flour in the Northwest Transportation Company's warehouse awaiting spring shipment.

William J. Kountz, who had received the contract for transporting supplies and men to military posts in 1870, retained it for the 1871 season. To do so, however, he bid ridiculously low. His offer, $3.38 per hundred pounds of supplies, was $1.12 less than he had been paid the previous year and contained no provisions concerning higher rates for low water. Kountz had a hard time keeping his boats busy, and that, coupled with poor water conditions, made for an unprofitable year. At that time the Kountz line included the Carrie V. Kountz, Peninah, Katie P. Kountz, and Andrew Ackley. During the 1871 season Kountz operated under the rate schedule on the following page.

In 1872 the Northwest Transportation Company received the contracts for both the Indian agencies and the military posts, even though Kountz submitted two bids for the military contract, one 30% lower than that submitted by the Northwest Transportation Company. Kountz was required to post two bonds of $10,000, but posted only one, so the contract was let to the Durfee and Peck line (Northwest Transportation Company).

RATES PAID TO KOUNTZ LINE
FOR TRANSPORTATION OF MILITARY FREIGHT TO
UPPER MISSOURI POSTS, 1871*

From Sioux City to:	Officers	Soldiers	Freight Per 100 lbs.	Horses Cattle Mules	Ambu-lances	Carts
Yankton Agency	$ 5	$ 3	$ .20	$ 5	$10	$ 6
Fort Randall	$10	$ 4	$ .40	$ 8	$15	$ 8
Whetstone Agency	$12	$ 5	$ .48	$15	$15	$ 9
Lower Brules Agency	$16	$ 6	$ .55	$15	$18	$11
Crow Creek Agency	$20	$ 7	$ .68	$15	$20	$13
Fort Sully	$25	$ 8	$ .80	$25	$25	$17
Big Cheyenne Agency	$25	$ 9	$ .82	$27	$27	$19
Grand River Agency	$28	$10	$1.07	$30	$35	$21
Fort Rice	$30	$11	$1.15	$35	$40	$23
Fort Stevenson	$40	$13	$1.50	$40	$45	$24
Fort Buford	$50	$15	$1.69	$45	$50	$25
Fort Benton	$70	$17	$3.38	$50	$75	$50

*Taken from A History of Steamboating on the Upper Missouri by William E. Lass, p. 70.

After signing the military contract, Durfee and Peck added two more boats to their line, the Western and the Sioux City, bringing their total number of steamers based at Sioux City to nine.

Since Northwest Transportation was the only company with regular trips to the military posts and Indian agencies in 1872, it enjoyed a big advantage in the transportation of civilian passengers. The company charged $7 passage from Sioux City to Yankton, $12 to Fort Randall; $18 to Brule Agency; $20 to Fort Thompson, $30 to Fort Sully; $30 to the Cheyenne Agency; $35 to Grand River Agency; $40 to Fort Rice; $50 to Fort Stevenson; $50 to Fort Berthold; $65 to Fort Buford; and $100 to Fort Benton.

On board these boats could usually be found traders who had permission to sell food stuffs, tobacco products, and candy. One such trader on the steamer Western, Dan Scott, was also a correspondent for the Sioux City Journal. He noted that one of the more common passenger solutions to the boredom of a steamboat trip was to drink whiskey all night and sleep all day. The barkeeper, like the trader, was not a regular crew member, but was instead an itinerant businessman. Indian agents complained that it was impossible to keep liquor from the Indians since the barkeeper or boat's officers would sell whiskey to woodcutters who in turn would sell it to Indians. Boatmen often found whiskey a popular form of payment for wood.

In 1873 the Dakota Southern Railway reached Yankton from Sioux City and thus made Yankton an important location on the river for steamboats. After 1872 Yankton was the starting point for most government shipping headed up the Missouri. It was in competition with Bismarck and, due to a more advantageous rate structure, did more business for a few years. Freight rates from Chicago to Yankton were 52½¢ per hundred pounds as opposed to $1.00 per hundred pounds to Bismarck.

The success of Yankton as a steamboat port was due largely to one man, Sanford B. Coulson. Coulson was born and raised near Allegheny City, Pennsylvania, and always maintained close ties with that area. Coulson started working on the Ohio and Mississippi rivers and eventually made his way to the Missouri where steamboating opportunities were greater. He was employed by several companies on the Missouri River, including the Kountz line until he and Kountz got into a dispute. After this Coulson saw Kountz not just as a competitor but as an enemy. When the Northwest Transportation Company reorganized in the winter of 1870-71, Coulson was named General Superintendent.

Following the 1871 shipping season, he began organizing the Missouri River Transportation Company out of Yankton with his three brothers, John, William, and Martin. In forming the new steamboat company they were assisted by four Pennsylvania acquaintances as well as Nicholas Buesen, Josephus Todd and Grant Marsh who were three well-known upper Missouri River steamboat captains.

One man never owned all the company's boats. In fact one man seldom owned over half of any one steamer. Insurance for the boats was terribly expensive so they were not insured for their full value; if they sank their owners generally lost much of their investment. Cargo was usually insured for about a third or half of its estimated value. When the boat sank, crew and passengers usually made it safely to shore since the river was generally shallow. Often, much of the cargo was also saved, and at times the boat could be salvaged, repaired and put afloat again.

One of the hardiest boats was the Benton which hit a snag and sank in 1889. Following repairs, she was put afloat and faired well until 1895 when the same misfortune befell her. Once again she was put back into service and lasted another two years until slamming into a bridge at Sioux City reduced her to a great mass of broken timber.

During its first year of operation (1872), the Missouri River Transportation Company owned seven boats: The Nellie Peck, Far West, Western, Key West, E. H. Durfee, Sioux City and Mary McDonald. In 1873 the company obtained its first government contract and continued to receive them throughout the 1870's.

Coulson himself was hard-working and talented, and he hired people with those qualities as employees of his firm. He also established good contacts in Washington which helped in securing contracts. With the sucess of the Coulson line, Sanford Coulson became a well-known figure up and down the river. Even when he went to St. Louis his visit was noted in newspapers. He made his winter home in Allegheny City, Pennsylvania, (near the site of his birth), and in 1878 built a $10,000 home there. By 1885 Coulson had sold his share of the Missouri River Transportation Company and retired. At that time he owned a 1,200 acre farm near Yankton and also had interests in the Yankton Fire Insurance Company and a local brick factory.

In 1878 the government's contract with Coulson provided for the following charges: army officers--3¢ per mile; enlisted men and government employees--2½¢ per mile; horses and livestock--4¢ per mile. It also stipulated the following range of rates per 100 pounds for stores and supplies: 45¢ per 100 miles up to 50 miles, to 9¢ per 100 miles for 800 miles or more.

During the line's thirteen years of operation, which was extremely long for a steamboat company, most of the commercial activity out of Yankton was within the Dakota Territory. Beginning in 1875 the Black Hills gold rush provided additional business. In 1876 the general shipping rate upstream to Ft. Pierre, which is about 250 miles above Yankton ranged from 75¢ per 100 pounds early in the season when the water was high, to $2.00 per 100 lbs late in the season; low water, high wages, and scarcity of wood given as the reasons for the dramatic increase in rates. After the Battle of the Little Big Horn in 1876, the government built several posts in Montana on the Yellowstone River, following which the Coulson line extended service up that river. By 1880 two-thirds of the government trade shipped on the upper Missouri started at Bismarck, thus necessitating Coulson's shift in activity from Yankton to Bismarck.

Over the years the Missouri Transportation Company (the Coulson line) utilized the services of at least 14 steamers including the Far West, E. H. Durfee, Western, Key West, Josephine, Big Horn, Rosebud, Montana, Dacotah, Wyoming, Nellie Peck, Black Hills, Custer and the Peninah. These varied greatly in size depending on their purpose, one of the smallest being the Josephine which was only 178 feet long. It was designed by Captain Grant Marsh for navigation on the Yellowstone River and, because of its small size, had a shallow draft.

In 1879 Coulson built three large luxury craft, the Montana, Dacotah and Wyoming. They were each about 252 feet long and were constructed at an average cost of $48,000. These boats were not profitable due to their high operating costs and limited season. A boat of this size could carry

nearly 1,000 tons of cargo, but could only operate during periods of high water because it drew a full six feet when fully loaded. It is not clear why Coulson built them, possibly he anticipated a large tourist trade, as each steamer was equipped with lavish cabins.

The most famous and probably most profitable steamboat in the Coulson line was the Far West which, like many of the Coulson steamers, was built in Pennsylvania. One of the fastest boats on the river, it became the heroine of the upper Missouri and by the time it was sold had paid for itself twelve times over.

Most famous of those steamboat captains employed by the Missouri River Transportation Company was Grant Marsh. Like Coulson and many others, he was from the East. Marsh, born in 1838, first worked on the Allegheny and Ohio rivers, beginning as a cabin boy at the age of 12. By 1854 he was regularly employed on the Missouri and in 1858-59 served as a mate on the A. B. Chambers of which Samuel L. Clemens (Mark Twain) was pilot. In 1868 Marsh made his first trip from St. Louis to Ft. Benton as captain and pilot of the Luella. On the return trip he carried $1.25 million in gold dust, the richest cargo ever to go down the Missouri.

During the Indian troubles in Yellowstone country, Marsh was often employed by the government in exploring the upper reaches of the river and transporting troops.

In 1876 as captain of the Far West, he was near the Battle of the Little Big Horn and took his ship up the Big Horn River to its confluence with the Little Big Horn. This was quite an accomplishment and a big risk, for if

he had run aground, he might also have been killed by Indians. Following the battle, Marsh carried General Reno's wounded men downstream to Bismarck with the news of Custer's defeat.

Marsh continued for many years as a steamboat captain on the Missouri, commonly working for the government in his later years.

SECTION EIGHT

MISSOURI RIVER IMPROVEMENTS

Besides implementation by the U.S. Army Corps of Engineers of a policy of snag-removal late in the steamboat era, little was done to improve conditions on the Missouri till 1940 when the federal government completed its first big mainstem dam, the Fort Peck Dam in Montana. With a volume of 125 million cubic yards, it is the largest earthen dam in the world and not only controls floods, but also provides water for irrigation and for production of hydroelectric energy.

To extend the benefits provided by the Fort Peck Dam to the entire Missouri Valley, Congress approved the Flood Control Act of 1944 on December 22 of that year. It authorized the Missouri River Basin Project (commonly known as the Pick-Sloan Plan) for the development of irrigation, hydroelectric power, flood control, navigation, sediment control, domestic, municipal and industrial water supplies, as well as fish and wildlife, recreation, pollution abatement and hydrology research.

The Missouri Basin Survey Commission submitted a detailed report early in 1953 concerning the best method of developing the land and water resources in the Missouri Valley. Their plan called for construction of 316 separate project units, including 112 dams having a total storage capacity of 107 million acre-feet. A stabilization and navigation project was also advocated from the mouth of the Missouri to Sioux City, Iowa, providing for reinforcement of the banks and development of a guaranteed nine-foot channel over this 760-mile stretch.

Typically the western portion of the Missouri Basin has too little water while the lands to the east have too much. To rectify this maldistribution, the Bureau of Reclamation generally works in the west to

develop water resources for irrigation whereas the Corps of Engineers operates in the east to promote flood control and navigation projects. More than 10 million acres of land were planned for receipt of flood control and irrigation benefits. Hydroelectric plants constructed in conjunction with the principal mainstem dams were intended to generate approximately 13 billion kilowatt-hours of electricity annually.

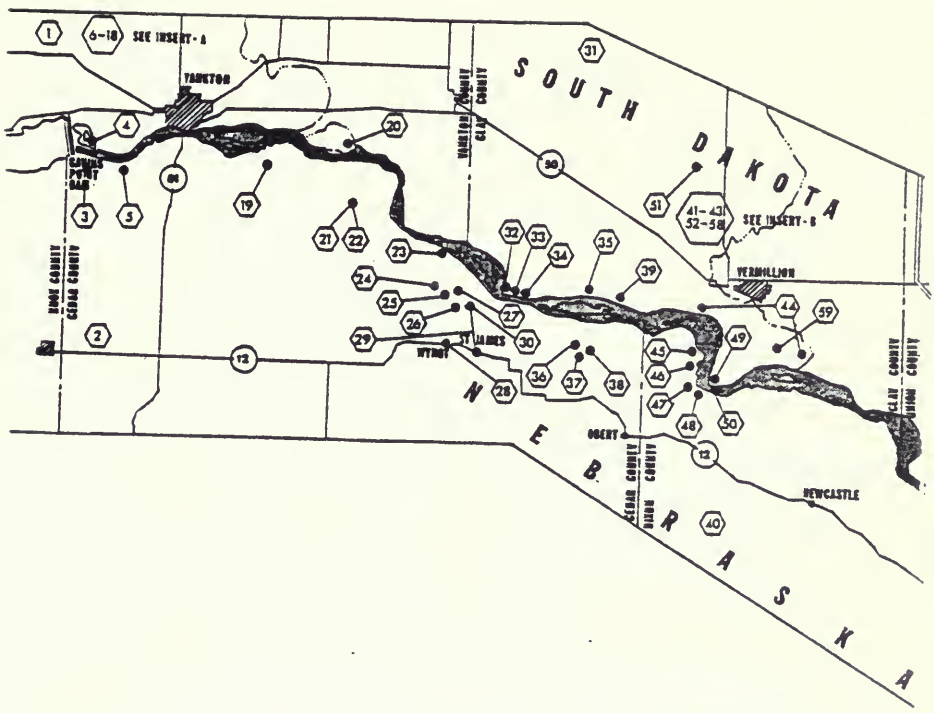
Beginning in 1944, the Bureau of Reclamation and the Corps of Engineers have completed more than thirty-five dams. Major installations erected on the Missouri itself include the Canyon Ferry Dam (1954) in Montana; the Garrison Dam (1956) in North Dakota; and the Oahe (1963), Big Bend (1967), Fort Randall (1956) and Gavins Point (1956) in South Dakota. Facilities built on its tributaries include the Yellowtail Dam (1966) in Montana, the Keyhole Dam (1952) in Wyoming, the Bonny Dam (1951) in Colorado, the Jamestown Dam (1953) in North Dakota, the Shadehill Dam (1951) in South Dakota, the Harlan County Dam (1952) in Nebraska, the Turtle Creek Dam (1962) in Kansas, and the Pomme de Terre Dam (1962) in Missouri.

Originally scheduled for completion in 1980, it now appears that over fifty years may be required to conclude the project.

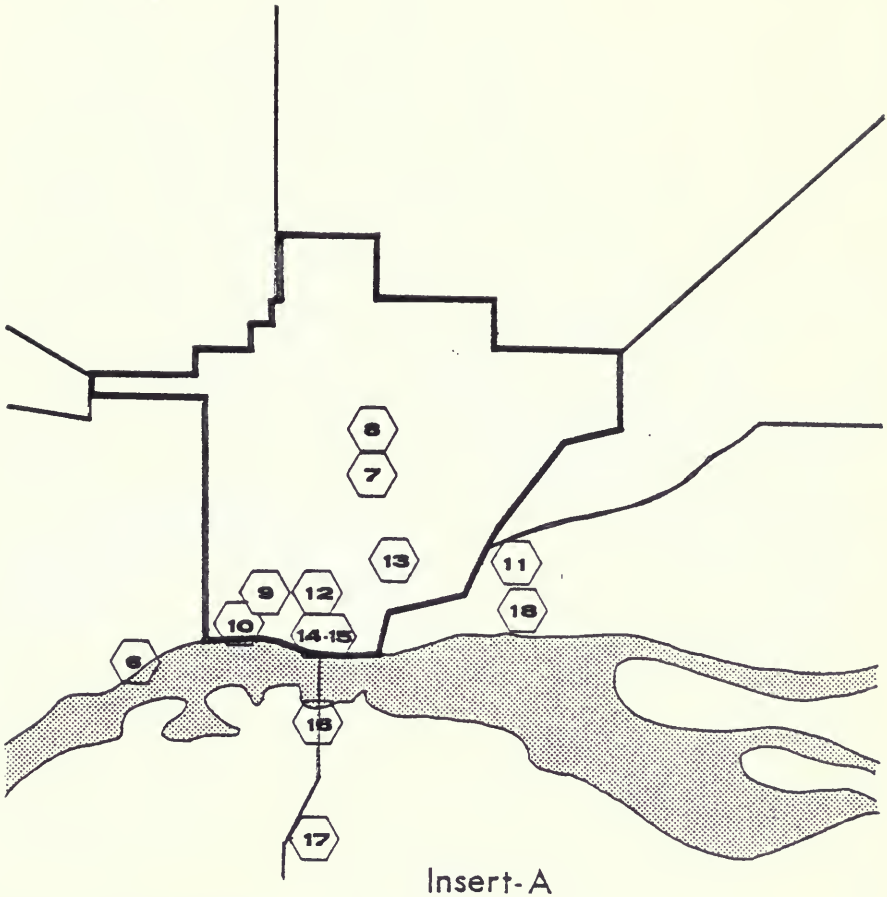
SECTION NINE

CATALOG OF SITES*

*The location of various sites is indeterminable and has been approximated.



Missouri River Historical and Archeological Sites, Map # 1

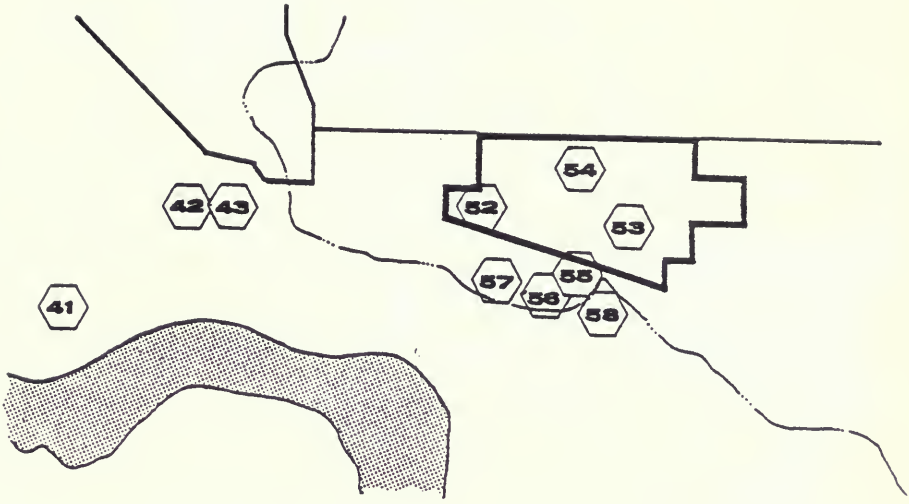


Insert-A

YANKTON, SOUTH DAKOTA

W E

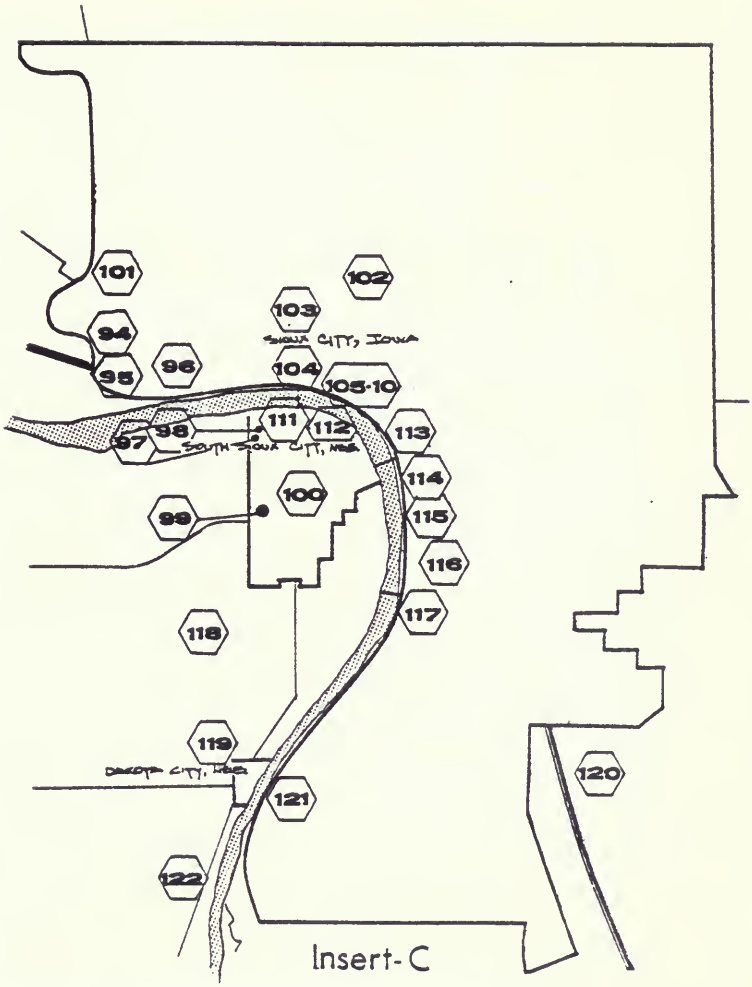
S

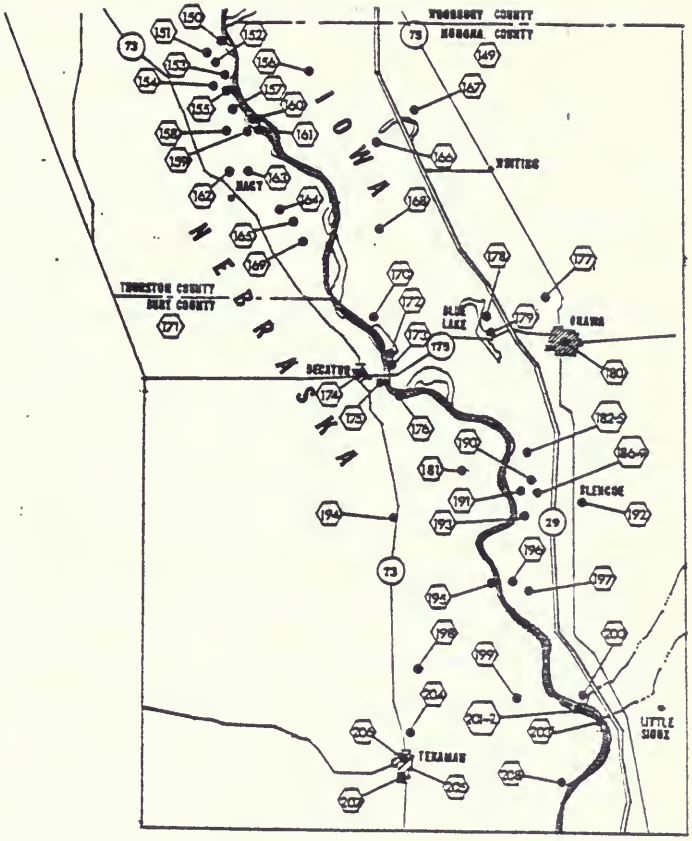


Insert-B

VERMILLION, SOUTH DAKOTA

Missouri River Historical and Archeological Sites, Map # 2


101
102
103
SIOUX CITY, IOWA
94
95
96
104
105-10
97
98
111
112
113
SOUTH SIOUX CITY, NEB.
114
100
99
115
116
117
118
119
DAKOTA CITY, NEB.
120
121
122
Insert-C



Missouri River Historical and Archeological Sites, Map # 3

1. Yankton County, South Dakota

The area that is presently Yankton County was the home of the Arikara Indians for several generations. This tribe referred to themselves as the main stock of the Pawnee people.

Immediately prior to white settlement, the area was occupied by the Yankton Indians. A division of the Dakota Nation, they had left Minnesota, separated from the Santee and Teton divisions and settled in present-day South Dakota.

The first white person to reside within the limits of Yankton County is believed to have been Major W. P. Lyman, who operated a government ferry on the Dakota (James) River, about six miles east of the present site of the City of Yankton (see No. 8). Opened in May of 1857, it was on the route between the Iowa communities on the Missouri River and Fort Randall above Yankton.

Prior to the establishment of this ferry, the government express traveled the old military trail (later Military Road, see No. 101) between Sioux City and Fort Randall. Following the Missouri bluffs, the express forded the Dakota River at a point several miles north of Yankton known as "the rapids." Once the ferry was in operation, the government mail, express and trains took advantage of its services.

George Fiske, the first white occupant of the Yankton area, settled in March, 1858, while the region was still Indian territory. At that time, the main camp of the Yankton Sioux (see No. 7) was located where Yankton now stands. One month after Fiske's arrival, the Yanktons signed a treaty of cession, allowing all lands east of the Missouri to be opened for white settlement.

In the fall of 1860, John Ball surveyed the township of "Yancton," and, on March 2, 1861, the area was included in the newly formed Dakota Territory. The first Territorial Legislature met at Yankton on March 17, 1862. The town was chosen as the permanent capital on April 8 of that year and remained as such until 1883.

Yankton became a county in 1862, the same year people took refuge in the town of Yankton from the Santees involved in the Minnesota Massacre (see No. 9). The town was named the county seat at that time.

In the spring of 1864, a group of one hundred families left New York to establish a community under the Homestead Law of 1862. Although their original plan was to remain together, only about thirty families eventually settled around Yankton.

A meeting was held on January 24, 1872, to hear Judge W. W. Brookings, president of the proposed Dakota Southern Railway. Some materials had already been purchased and he believed that by January, 1873, trains would be running from Sioux City to Yankton. An effort was made to secure bonds from the counties through which the road passed. As a result, such bonds were voted in Union and Yankton counties.

The railroad's arrival in 1873 made Yankton an important steamboat stop. After 1872, the town became the starting point for most government shipping headed upriver. Later, when the railroad moved further west, steamboat traffic declined considerably.

Some years after construction, an attempt was made on the part of Yankton County to repudiate the Dakota southern bonds, on which no interest had been paid. The dispute developed into a lengthy court battle. Reportedly,

for several years the bondholders were unable to secure service of legal papers on the county commissioners, a necessary step in order to force a tax levy for payment of interest. The commissioners had resigned in mass, and whenever public business was to be transacted the remaining county officers secretly appointed new commissioners, who met and conducted the necessary county business. These people then resigned before their appointment became publicly known. This continued until those involved were ready to settle the debt. The matter was eventually compromised and new bonds issued to the amount of over $400,000, more than twice the original debt.

In 1879 this railroad was extended westward through the county and Lesterville laid out on its line. Two years later, in 1881, the Dakota Southern was sold to the Chicago, Milwaukee and St. Paul Railway Company.

The Chicago and Northwestern built its road to Yankton in 1885. Volin and Mission Hill were founded the same year. In 1893 the Great Northern entered Yankton, and Irene, lying partially in Yankton County, was laid out and became a considerable town at this time.

In 1881, the town and county area along the river fell victim to a Missouri River flood. The first warning of the flood came in the form of a blizzard which struck the Dakota Territory on October 15, 1880. More storms during the following five months brought so much snow that it was still deep when the time came for the normal spring breakup of ice in the rivers.

The ice in the upper reaches of the Missouri River broke more than three weeks before the ice at and around Yankton causing a great downriver flow.

Bursting its icecap at Yankton on March 28, 1881, the river continued to rise while great chunks of ice were tossed about by the raging water.

The major cause of the flood's severity was a gorge of ice that formed on the third day. Only after the gorge broke six days later did the river run freely again.

About 900 people were made homeless by the flood in the immediate Yankton area. More than a half dozen riverboats had been tied up at Yankton for repairs and renovation. Destruction of the steamer ways at Yankton, along with the damage to these boats, seriously hindered river traffic in the area. Fearing a recurrence of the previous year's disaster, only three boats tied up at Yankton for the next winter.

During the early 1870's there had been a movement to divide the Dakota Territory into two parts, due primarily to the vast distance separating settlement in its southeastern and northeastern corners. In 1883 the Territorial Commission transferred the capital from Yankton to Bismarck. Later that year, delegates from the southern portion of the Territory met at Sioux Falls to write a constitution as required prior to application for statehood. This constitution was changed in 1885 and again in 1889 before it received Congressional approval. As a result, on November 2, 1889, South Dakota became the 40th state.

2. Cedar County, Nebraska

The region that is now Cedar County was first explored by a group of eight Frenchmen traveling up the Missouri River in the summer of 1739 to trap furs and trade with the Indians. Their dealings in northeast Nebraska were with the Panimaha tribe of the Pawnees. They were followed by other

fur trappers and traders who spent their winters buying furs from the Indians. The only trapper to actually live in Cedar County was a Frenchman named Tradeau, who in 1796 visited the Indian villages in the area. He lived on an island in the river near St. Helena (see No. 21).

Lewis and Clark traveled through the area in 1804, holding council with the Sioux at Calumet Bluff on August 28 of that year (see No. 3). Presents were given to the Sioux in return for their pledge of peace and allegiance to the United States.

The real incentive for settlers to come to Cedar County came from the reports of Nuttall and Bradbury, two travelers who explored the region in 1811.

Early settlement was slow, yet on February 12, 1857, Cedar County was organized by an act of the Territorial Legislature. Though little more than a post office, the town of St. James (see No. 29) was established as the county seat.

Actual settlement of the county began that year with the spring arrival of the Henson Wiseman family (see Nos. 36 and 37), who settled east of St. James. Later in the year nine other families arrived to also settle near St. James. At that time, government land could be purchased for $1.25 an acre, with no legal restrictions on the amount purchased.

In the fall of 1857, the county's first election was held, in order to choose a judge, clerk, treasurer, and commissioners.

Cedar County's first sawmill was built at Bow Valley in 1857. The following year saw construction of a second mill. Erected on St. Helena Island, it burned down in 1860 but was rebuilt that summer. In 1870 a third sawmill was constructed, this one in the timber just above St. Helena.

Early settlement of the region was primarily due to the transportation access provided by the Missouri River. The Pacific Wagon Trail across the county was used for army transportation in 1857. In that year, the government built bridges across the East, Middle and West Bow creeks.

Numerous real and "paper" railroads were planned for the county. In 1884 the Northwestern Railroad entered from the south, going as far as Hartington. Five years later, the Pacific Short Line was built west across the county, and in 1907 the Burlington purchased the line in the southern portion of the county from Laketon to O'Neill. The Bloomfield branch was built in 1891 with the Wynot branch extended in 1907 from Newcastle, through Obert, to Wynot. (This line was dismantled in 1935.)

Those railroads never completed included one begun in 1892 between Yankton and Norfolk. The grading and bridge pilings were finished between Yankton and Crofton when sold to James Hill of the Northern Pacific. Seen as competition for his own road, Hill purchased the line in order to destroy it. Workmen hired for this purpose were left without pay once the task was completed.

The Covington, Columbus and Black Hills Railroad started to build through northern Cedar County in 1876. At that time citizens of the county voted in favor of issuing bonds to assist the railroad. Their decision to issue $150,000 worth of bonds, amounting to nearly fifteen percent of the county's assessed valuation, was declared illegal by the State Supreme Court. (The law allowed no county to bond itself for more than ten percent.) Work on the railroad stopped with the roadbed partially graded to the center of the county.

3. Lewis and Clark, August 28 - September 1, 1804

4. Lewis and Clark, September 1, 1806

5. Aten

Aten is a small community in northwest Cedar County near the Missouri River. It was settled in 1881 and named for John Aten, a former state senator from Cedar County.

6. Yankton Pontoon Bridge

In 1890 the first pontoon toll bridge was installed to provide a Missouri River crossing at Yankton. It was set in place when the river was completely free of ice in the spring and removed before ice covered the river in the winter. After the ice became strong enough to support its weight, the bridge was positioned atop the frozen surface. The pontoon bridge became an annual feature from 1890 until it, like the ferryboats (see No. 10), was outmoded by the new bridge in 1924 (see No. 16).

7. Sioux Camp

The City of Yankton is presently located on the site of what was once the main camp of the Yankton Sioux, a division of the Dakota Nation. Padani Apapi, known as Struck-by-the-Ree, was the tribe's head chief.

At the time of his birth, during Lewis and Clarks' council near Yankton in 1804, Struck-by-the-Ree was wrapped in an American flag, thus becoming the first Sioux citizen of the United States.

The chief's recollection of this honor and his ability to see that his people would be forced to eventually accept the white man's presence,

led him to assume a prominent role in formulating the treaty of cession signed on April 19, 1858. This treaty opened all lands east of the Missouri to white settlement.

8. City of Yankton

Yankton is situated on the north bank of the Missouri River, atop a level plateau about twenty feet above the river. A semi-circle of bluffs rises above the plateau, nearly surrounding the townsite.

The first actual white settler, where the City of Yankton was later laid out, was George D. Fiske, who arrived sometime in March, 1858. He came as a representative of Frost, Todd & Co., post sutlers at Fort Randall. (Sutlers followed an army, selling food, liquor, etc. to the soldiers.) They assigned him to this location as their resident agent and trader, doing business with the Indians and any white men who might settle around the station. In June of that year, the trading house was built near the river containing sixteen red cedar logs which had been floated downriver from Fort Pierre, more than 200 miles above.

At that time Yankton was known as "Struck-by-the-Ree's Camp," from the fact that the well known chief of the Yankton Sioux, "the man that was struck by the Ree," with his band, was encamped there (see No. 7).

Charles F. Picotte, a half breed born in Dakota about 1830, was granted 640 acres covering part of the present townsite at the time of the Yankton Sioux treaty, April 19, 1858. He understood and spoke both the Sioux and English languages and became very useful as an interpreter. The trading house was erected on his claim, and he resided with Fiske for a considerable period of time. Picotte eventually sold most of the land to various settlers, retaining only several lots and buildings in Yankton.

Following Picotte's grant, Capt. J. B. S. Todd was awarded a 160-acre tract, lying immediately to the west. Both grants were made as compensation for significant military and other services provided to the United States.

Shortly after his arrival, Capt. Todd and a number of other capitalists formed the Upper Missouri Land Company. Early in 1859, when it became generally known that the Indians had ceded a portion of their lands in southeastern Dakota, settlers began to come in increasing numbers. Following removal of the Indians to their reservation, the Upper Missouri Land Company was dissolved, and another firm, called the Yankton Land and Town Company was established. That August, the town plat of Yankton was surveyed and laid out under the land company's direction, by John P. Culver, a surveyor from Sioux City.

The Yankton Claim Club was organized in the fall of 1859. A constitution and by-laws were adopted and the members pledged themselves to support each other in defense of their claims, in case of litigation or other difficulty.

On November 8, 1859, a meeting, called for the purpose of petitioning Congress for territorial organization, was held in D. T. Bramble's unfinished store. A committee comprised of Capt. Todd, Obed Foote and Thomas Frek was named to draft resolutions; while Capt. Todd, George Fiske and J. M. Stone were appointed to draw up a memorial to Congress.

The steamers Key West, Spread Eagle and Chippewa, collectively known as the "mountain fleet," arrived at Yankton from below on May 26, 1860. That summer, Yankton's first post office was founded with D. T.

Bramble as postmaster. Prior to this, the mail for Yankton had been left at a ferry on the Dakota (James) River.

News of the approval of territorial organization for Dakota reached Yankton on March 13, 1861, and caused great celebration. Yankton was subsequently designated as the temporary capital, and in June, 1861, the first of the territorial officials, Newton Edmunds, chief clerk in the Surveyor General's office, arrived and opened an office in Bramble's building. Soon Governor William Jayne came and established the executive office in a log structure opposite Ash's Tavern.

During the winter of 1861-62, Company A of the Dakota Cavalry was recruited at Yankton as an infantry unit for the United States service, but was later ordered mounted for frontier duty in Dakota. At that time, twenty-three men from the Yankton area enlisted.

A great flood struck the Missouri River Valley the following spring. In March a huge ice gorge formed below the mouth of the Dakota River, and the backwater inundated the bottom land on both sides of the river from Yankton to the Big Sioux River. In places the water was like an enormous lake, twelve miles in width, extending from the Nebraska bluffs to Turkey Ridge in Dakota.

Settlers on the bottoms were forced to move to the higher lands for safety. People traveled by row boats over the entire region between Yankton and Sioux City. Greenway's landing on the Dakota River was moved 1½ miles during the three-week period of high water. Indians in the area claimed this was the highest raise in nineteen years.

The first Territorial Legislature convened at Yankton, March 17, 1862. Yankton was made the permanent capital of the Territory at this time. According to the executive record, this session was full of controversy, the exchange between members becoming so heated that the Governor finally ordered twenty armed soldiers to be placed on duty to preserve the peace.

While the Legislature was still in session, news of the Indian outbreak and massacres of whites in Minnesota reached Yankton. This was followed by panic and a stampede among the settlers, who nearly all fled to Iowa.

As a result, the Governor issued a proclamation calling out the Territorial Militia, and strong fortifications were erected around a city block in Yankton (see No. 9). Men were constantly drilling and an armed guard was placed around the town each night.

Rumors of impending massacre filled the air as Yankton prepared for the apparently inevitable conflict. Forty members of the Dakota Cavalry were quartered within the stockade at that time.

But, thanks to the friendship of Struck-by-the-Ree, head chief of the Yankton bands, the danger was soon ended. He placed his warriors between the hostile Indians and the white settlers, thus quieting the situation.

In 1864 the migration of the "New York Colony" added twenty families to the permanent population of the Yankton area.

Yankton was chartered as a City on January 9, 1869, with its first election held the first Monday in April, 1870.

A Missouri River Packet Company was formed in 1870 to run a regular line of steamboats between Sioux City and Yankton and occasionally to

Fort Randall. The steamboat Miner, the initial boat of this line, landed at Yankton on April 12, 1870, carrying a large quantity of freight and a number of passengers.

Yankton had one of the best landings on the Missouri, and until the early 1870's nearly all the freight shipped to and from the city was by steamboat. Yankton became an important point for such traffic, and owed much of its prosperity to this business. A number of firms exceeded $200,000 in trade with the upriver country during 1870 alone. At the peak of activity, as many as forty steamers did business at Yankton and many of the owners made the city their home. Gradually the trade moved upriver (principally to Bismarck), till by 1884 Yankton's river business was very small.

As the area became relatively well settled, the need for railroad facilities began to be felt and a demand for service was voiced. By 1870 several roads were projected for construction to Yankton. The Dakota and Northwestern Railroad was chartered to run westward from Sioux City, through Elk Point and Vermillion. A Yankton Division of the Milwaukee and St. Paul Railroad was scheduled to connect Yankton with the eastern edge of the Territory, near the mouth of the Rock River, a tributary of the Big Sioux. Another line from the eastern boundary of Dakota, the Minnesota and Missouri River Railroad, was chartered to pass near Sioux Falls and provide direct communication with the timber producing sections of Minnesota. The Omaha and Northwestern Railroad pointed toward Yankton as its northern terminus. Finally, the Fremont and Missouri Valley Railroad was planned to come up the Elk Horn River Valley directly towards the city,

and possibly conclude at a point on the Missouri opposite Yankton. Although bills were introduced into Congress for a grant of lands for all of these roads, except those in Nebraska for which the state granted 100,000 acres each, none of them ever reached Yankton.

Eventually, a railroad was successful in extending service to Yankton. The Dakota Southern Railway, organized and chartered in 1871, began construction at Sioux City in 1872, and arrived in Yankton sometime the following year. This road was sold in 1881 to the Chicago, Milwaukee and St. Paul Railway Company.

Four years later, the Chicago and Northwestern built its line into Yankton, and in 1893 the Great Northern first entered the city.

In the spring of 1881, Yankton was once again victimized by the angry flood waters of the Missouri. Heaviest losses in the city were among the steamers and warehouses; while in lumber, dwellings, household goods and livestock, the losses were also considerable. On the bottom lands, buildings, livestock and grain were all indiscriminately swept away.

The damage done to steamboats on all the lines headquartered at Yankton was nearly incalcuable. Every boat at, or near, the city was extensively harmed. The Western was entirely smashed into kindling wood. Broken square in two at its midsection, the Butte was considered a total loss. The Helvetia was twisted like an auger and riddled with holes. As a result, sho lost a full year's service. Of the three boats on the steamer ways, the Black Hills was least damaged, but even she was badly racked and crushed. Both the Peninah and Nellie Peck were driven high and dry on the bank, where they were left in a badly shattered condition.

Washed even further up the bank was the Yankton ferryboat, Livingston. Old rivermen said that in all their experience they had never known so disastrous a series of losses.

In 1883 the Surveyor General's office was removed from Yankton to Huron and the territorial capital was transferred to Bismarck.

9. Yankton Stockade

During the 1862 Sioux outbreak in Minnesota, people of the Yankton area, fearing a similar action, took refuge in a stockade built in the town.

The stockade was 450 feet long per side, with each wall built from whatever materials were handy. Its six-foot north wall was constructed of sod and earth with a ditch in front. Posts with boards on either side formed the east and west walls. Earth was packed between the boards to provide additional fortification. The south wall was built of cedar posts placed close together, with a gate in the center.

The principal building in the stockade was Ash's Log Tavern.

10. Yankton Ferryboating

Ferryboats provided warm-weather crossing facilities for more than half a century. Nine different vessels operated between Yankton and the Nebraska side (or the village of Green Island) from 1870 to 1924, beginning with the Lizzie Warden, which was reportedly capable of carrying twenty loaded wagons and the horses needed to pull them. In 1873 the Yankton replaced the Lizzie Warden, which apparently sank, as the Yankton later did in spite of the fact that its name carried the "mystic seven" letters which was considered a good luck charm by riverboat veterns. The 120-foot

Belle of Lexington became, in 1875, the next vessel to service the Yankton-Green Island run, but within a year it was replaced by the Dr. Burleigh.

Meanwhile, the machinery of the ill-fated Yankton was salvaged and became part of the ferry Katie which was put into service when the Dr. Burleigh was shifted to Pierre. The Katie was lost in May of 1877, when after floating into the main channel, she hit a snag and sank in twelve feet of water. The Dr. Burleigh was brought back to Yankton until the Livingston arrived from downriver. The Livingston figured prominently in the memorable flood of 1881 when it was caught in the icy waters and washed across the railroad tracks to a dry-land resting place. After being repaired and refloated, the Livingston was moved to the Running Water crossing by her owner, Captain Grant Marsh, who played a major role in Yankton's ferryboat operations as he had previously in the steamboating days.

The seventh boat to serve Yankton was the Senator, a clumsy 115-footer which was the only one of the nine ferries to be built entirely in Yankton, where it was launched in the spring of 1882. Once again the "mystic seven" letters failed to avert disaster, as the Senator sank twice, had numerous financial difficulties and was almost destroyed by fire on another occasion. On August 10, 1886, a steam-powered boat which had been built in Chamberlain by Captain Henry J. King arrived at Yankton. The seven-lettered Josie L. K., which was to serve for an unmatched period of nearly 35 years, was named for Captain King's daughter and became the best known of all the Yankton ferries. In 1900 Captain Joseph Giesler succeeded King as operator, and from then on his name was virtually synonymous with local river-crossing activities. Giesler not only ran the Josie L. K.,

but was in charge of the Yankton pontoon toll-bridge as well (see No. 6).

On one occasion the Josie L. K. sank on her mooring at Yankton, but the Captain had her pumped out, repaired and returned to service. Then, on the last day of March, 1920, the aging ferry was caught unprotected at the landing by a sudden spring ice floe. Her port side smashed, she sank quickly into the churning ice-filled waters. Only the pilot wheel, the bell, the boat's licenses and several other odds and ends were recovered as momentos of her long service to the people of the area.

Following the demise of the Josie L. K., the Yankton Chamber of Commerce and Captain Giesler combined to invest $4,000 for the purchase of the B. A. Douglas which had run aground on a nearby sandbar while transporting a shipment of livestock from Chamberlain to Sioux City. When the vessel was freed, the cattle and hogs were unloaded at Yankton, and the craft was cleaned out for conversion to ferry service, a function performed (with one major interruption by a serious fire in 1923) until it was made obsolete by the completion of the Meridian Highway Bridge in October, 1924 (see No. 16).

11. Custer Campsite

In 1873, General George Custer, eight hundred troops, seven hundred horses, two hundred mules and enlisted men's and officers' families were heading toward Fort Lincoln near Bismarck. On April 13 they stopped to make camp just east of Yankton. Before the camp was completed, a late-spring blizzard struck, during which General Custer is believed to have headquartered at the Merchant's Hotel in the town of Yankton.

While camped here, the travelers held a ball on April 24 and were reviewed by Governor Burbank on May 4. The campsite was moved west of Yankton on May 6 and on May 7 the group resumed their journey.

12. Brave Bear's Hanging

On May 15, 1875, Brave Bear, Sitting Bull's son-in-law, killed Joseph Johnson. Prior to the killing, Johnson worked near Okobojo Creek, twenty-five miles east of Fort Sully. While fleeing to Canada, Brave Bear met Scout "Fish" Allison, who recognized the dead man's horse and gun. When Sitting Bull later surrendered, Brave Bear returned with him. He was convicted of murder in January and hung on November 15, 1882. The hanging was a non-public execution that took place in the jail yard back of the courthouse.

13. Jack McCall - Hanging and Burial Sites

On August 2, 1876, Jack McCall shot Wild Bill Hickok in the back of the head at Deadwood. He was released by a lynching party after claiming that Hickok had killed his brother, but was later arrested. The murder trial, in which McCall was found guilty, was held in Yankton, December 4 through 6. He was sentenced on January 3, 1877, and on March 1 of that year was hung. McCall was buried in the Catholic cemetery with the noose still around his neck.

14. Steamboat Western

Owned by the Coulson line of Yankton, the Western was involved in trade with Fort Benton. On March 29, 1881, it was cut down by ice at

Yankton and crushed against the bank. It sank as a result of the "great gorge of ice" formed during the flood.

15. Steamboat Fontennelle

Engaged in the Fort Benton trade, the Fontennelle sank in August, 1868, opposite Amazonia, Missouri. She was raised, but later broken by the ice at Yankton in the spring of 1881.

16. The Meridian Highway Bridge

Following World War I, Congress began to deal with those domestic problems which had been neglected during the war. Receiving major attention were the problems of the national highways. Yankton was located on an incomplete north-south arterial which had been conceived in 1911, and slowly developed through the years by a group of enthusiasts from the six states spanned by the so-called Meridian Highway (now U.S. 81).

In its planned overall distance of 3,100 miles from Mexico City to Winnipeg, Canada, the "Main Street of North America" had several major hurdles to clear, one of the biggest of which was crossing the Missouri River. The road promoters were quite aware of the fact that as long as motorists had to drive over the ice in winter or wait for sluggish ferries in other seasons, the highway could not be considered complete. To remedy this problem a bridge was needed at Yankton.

This was not the first time people of the area heard talk of this nature. A bridge over the Missouri, like many unrealized railroad dreams, had been discussed for years. Always too big for the local pocketbook, it never materialized. There were several times, though, when success

seemed imminent. In 1889, John Timbrell Milward Pierce, having good English financial connections, managed to get the Yankton, Norfolk and Southwestern Railway to the verge of completion. A good deal of surveying and grading on the Nebraska side was finished and paid for; then, when Pierce returned to England for additional funds an international financial incident took place which made its effect felt in Yankton. The Argentine Republic defaulted on its bond payments which were guaranteed by Baring Brothers, a leading British lending institution. As a result, it was left with nearly $100 million in liabilities. Pierce had counted on more money from that source, but when the crisis came, the Yankton-Norfolk line and the hoped for bridge were dealt fatal blows, even though Pierce and others made a fruitless attempt at reviving the project.

In 1909 a railroad crossing again came so close to reality that hundreds of railroad ties and huge trestle timbers were brought to Yankton for the construction project. Suddenly the work stopped, the out-of-town promoters disappeared and the materials remained stacked on the river front, evidence of another failure. Six years later the Yankton County Bridge Company was incorporated and received a bid of $700,000 for a 1,500-foot wagon and foot span across the river, when the outbreak of World War I halted the venture.

Yankton's successful bridge effort was, in effect, born on June 1, 1919, at a social gathering where talk of a bridge arose. It was suggested that a wagon bridge might be built with local capital at a cost of no more than $500,000. There were substantial holdings of Liberty bonds in Yankton at this time which, if turned in on the project, might raise as

much as $300,000 toward its financing. The next day a subscription pledge blank was circulated around town and promises totaling $82,000 were obtained from just ten signers. Other organizational meetings followed, and on July 5, 1919, a corporation charter was granted to the Meridian Bridge Company of Yankton.

A finance campaign was undertaken in which $155,500 was raised. This commitment provided the go-ahead signal which the people of the area needed. An engineering firm made preliminary surveys to determine the type, cost and location of the bridge. Ultimately recommended was a bridge of double-deck design with a movable lift-span, costing approximately $1,300,000, and located at the foot of Walnut Street. The upper deck was designed to accommodate automobile traffic while the lower was to serve as a railroad crossing.

The sinking of the ferryboat Josie L. K. in March of 1920 was seized upon by Yankton bridge supporters as a strong argument for hurrying the construction of a permanent span and closing the gap in the Meridian Highway.

On August 20, 1920, the U.S. Congress granted the necessary franchise, and on September 25 the contract for the substructure was awarded to the Missouri Valley Bridge and Iron Company of Leavenworth, Kansas, on a bid of $397,500. Three weeks later Thompson Yards, Inc. received an order to provide 400,000 feet of heavy lumber and 13,500 barrels of cement for $72,355.91.

The first shovel of dirt was dug on February 21, 1921, marking the beginning of actual construction. One month later, the work scow,

Marion C., was launched and on April 6, Governor W. H. McMaster poured the first bucket of concrete into the excavation for Pier No. 1. The work continued for several years, much of the time battling angry waters and destructive ice floes.

The building was slow and tedious, but fortunately without major setbacks or tragedies. By the summer of 1924, the bridge's superstructure was completed following the installation of more than 750,000 rivets. So well balanced were the concrete counter-weights in the 250-foot lift-span, that its 824 tons could be lifted by a 20-horsepower motor.

On Saturday, October 11, 1924, after many final details were taken care of, the Meridian Highway Bridge, its main structure 1,668 feet long supported on eight concrete piers, was officially dedicated, thus bringing to a successful conclusion Yankton's lengthy quest for a Missouri River crossing.

After construction of the bridge, there were visions of great industrial and business expansion as a result of the new railroad connection to the south. "The million dollar bridge," as it was also called, was looked upon as a panacea for the town's economic ills. It was a major achievement, to say the least, but its curative powers never quite measured up to the expectations of those who hoped it would accomplish what the steamboats had previously failed to do.

17. Green Island (Strahmburg)

Strahmburg was named after the area's first settler, Sabie Strahm, who arrived in 1856. One year later, H. Bailey and Judge Hanson moved into the vicinity. The town was laid out in 1872 on the bottom land

about one mile directly opposite Yankton. A post office named Green Island was established here the following year. As a result, Strahmburg became generally known as Green Island.

Village growth had been small, but the opening of a general store and a blacksmith shop, as well as Congress' passage of the Homestead Act several years before, encouraged more rapid development of the area. Gradually, Green Island grew, until by 1881 it had a population of approximately 150.

A combination of bitter cold temperatures and an unusually heavy snowfall made the winter of 1880-81 one of the most severe on record. Snow fell in late October and remained till spring without any winter melt. Ice covering the Missouri River was four feet thick. In the March thaw the ice formed a gorge about two miles below Yankton, causing a flood that covered all the bottom lands on both sides. One could stand on the Nebraska bluffs and look to the Dakota bluffs across a solid sheet of water ten miles wide. On the Nebraska side, the water was 15 feet deep except for three high points.

Most of the inhabitants were able to reach high ground and were not in danger; however, approximately 40 people became stranded in a home about one-half mile from the town on slightly raised ground. At its highest point the water reached the upper story and the home was struck by several large pieces of ice carried downstream by the rushing water. All were rescued when the house miraculously withstood the stress of the water and heavy ice.

The school house, as well as every home, store, and church in Green Island, floated downstream and were crushed against the timber three miles below. Nothing was salvagable except broken lumber. As a result of the flood, most livestock drowned, all fences washed away, and the ground was left covered with about one foot of silt and debris. Amazingly, there was no loss of human life, although about 200 persons were rendered homeless. Many people left the area at this time. Those that stayed received help from relatives back east, but virtually no government aid, as only a few blankets ever arrived.

The flood covered an area six miles long by an average of three miles wide. Since 1881, the land occupied by Green Island has washed into the Missouri River.

18. Robert McClellan Fur Post

Built in 1805, McClellan's fur post was the second trading post located on the upper Missouri River. On their return trip in 1806, Lewis and Clark found the post on the first bottom below the James River.

19. Bentz Hill

Located near Campbell's Point, this hill is the site of the 1864 massacre of Dr. Lorenzo Bentz. His murder, like that of the Wiseman children the year before (see No. 36), was meant to warn other settlers in the area. It followed a major massacre at Mankato, Minnesota.

20. Lewis and Clark, August 27, 1804

21. St. Helena

St. Helena, the second oldest settlement in the county, was founded in 1858 by a group from St. Louis. Arriving by steamboat, the group first landed on a bar in the Missouri River (present site of the St. Helena Protestant Cemetery).

That year L. E. Jones built the second steam sawmill in the county on St. Helena Island. It was destroyed by fire in 1860, but rebuilt that summer.

The Missouri Colonization Society contracted with Henry Felber to build four houses in St. Helena. After their construction, Felber began erecting a two-story building. Before completion, it was partially destroyed by a windstorm, leaving only the first story intact. Instead of rebuilding, Felber simply added a roof to the remaining structure, finishing it in 1862.

Intended as a house, the building was used instead as a tavern. It became a rendezvous for travelers and a meeting place for local residents. A meeting was held at Felber Tavern in 1862 to discuss possible actions the community could take if the Indians who previously participated in the New Ulm Massacre came to the area.

In 1864, the "Great Stampede" brought settlers from the entire region to St. Helena for protection during the Indian uprisings. A cavalry unit from Iowa was sent to aid them.

Due to its superior level of trade, the county seat was moved from St. James to St. Helena in 1869.

22. The Schulte Site (25CD1)

This site was the first archeological find in Cedar County. It is located within the corporate limits of St. Helena, just east of the main street. Excavation done by the University of Nebraska in 1933 uncovered a large Indian earthlodge village that was occupied ca. 1200-1450 A.D.

Little is known of the tribe that occupied the village. While relics do not identify the Indians as part of any known civilization, it is believed they were an agricultural tribe which predated the later wandering plains Indians before white men settled America. There are also indications that they were a peaceful people who lived in one place, depending on farming and some hunting. Extended periods of drouth, which made farming impossible, were the likely cause of their departure.

Reconstruction of several of these earthlodges has shown them to be square houses made of wood. They were set on poles standing upright in the ground and covered with skins and sod. An open fire in the center of the floor warmed the lodge.

Unglazed or crudely glazed pottery suggests that these Indians had not reached the high degree of skill in making utensils which characterize later tribes.

23. Lewis and Clark, September 2, 1806

24. Fort Jackson

In 1864, the Sioux, Cheyenne, and other hostile tribes threatened annihilation of frontier settlements. Inhabitants west of Cedar County

fled in such numbers that the evacuation was referred to as the "Great Stampede." Supposedly, a vast horde of 10,000 Indians was in hot pursuit. In an effort to protect the settlers during the uprising, Company B of the Seventh Iowa Cavalry built Fort Jackson approximately one mile northwest of Bow Valley Mill and remained about a year before being removed. The expected attack unexplainably never materialized.

25. Wissler Site (25CD12)

A site of archeological significance has been located about two miles north of Wynot. Remains found on the north side of Second Bow Creek indicate that this find may be assignable to the Great Oasis culture, dating from roughly 500-1000 A.D.

26. Bow Valley Mill

The Bow Valley Mill was built in 1868 by Lewis E. Jones. Constructed of oak, the frame was held together by mortar and wooden pins, without benefit of nails. Flour and mill products processed here supplied northeast Nebraska, Sioux City, and major Federal Government contracts. Flour milling activity ceased in 1918, but the facility continued in operation as a saw mill for many years. The mill still stands.

27. Bad Village of the Omaha

This archeological site, located on a hill one-half mile north of the Bow Valley Mill, was the scene of major excavations by the University of Nebraska. Conducted during the mid-1930's, they resulted in discovery of an early Indian village. Relics uncovered indicate that the area was

inhabited for over 850 years. The presence of a wall encircling the dwellings made it unique among Indian villages, leading some to believe that the inhabitants were hostile and fostering legends referring to the settlement as the "Bad Village."

28. Wynot

Wynot, located in heart of the Bow Valley, was started in 1907 as a result of a northwesterly extension of the Chicago, St. Paul, Minneapolis and Omaha Railroad from Newcastle. It is really a continuation of the historic town of St. James (see No. 29). On January 11, 1906, a meeting was held by many wealthy farmers in the area, at which it was decided to confer with officials of the railroad. The result was agreement on the part of the railroad to extend the line 22 miles from Newcastle to St. James provided they were given the necessary rights-of-way. These were obtained by popular subscription; some farmers contributing land, while others assised businessmen in raising $35,000. Construction commenced following presentation of the rights-of-way to the railroad.

The people of the area wanted St. James developed but the land around it was unsuitable for a depot and sidetracks without crossing Bow Creek twice. Therefore, a new town was started just across the creek, one mile west of St. James.

At its peak this branch line had four trains a day, two each way to Sioux City and back. The depression, coupled with several years of drouth, made it unprofitable to operate. Finally in 1933, after 26 years of service, this branch of the road was abandoned, the first in Nebraska to be dismantled.

There are several stories as to how Wynot received its name. One involves a meeting where the question was being considered. Supposedly, a man suggested the name, an amalgamation of why not, when he asked, "Why not name it Wynot?" This apparently was agreeable to many as the name has stuck for seventy years.

29. St. James

Located in Bow Valley, the town of St. James was platted and named by Colonel C. C. Van and Moses H. Deming who came from Des Moines in 1856. The first permanent settler in the vicinity was a Mr. Thompson from Sergeant Bluff (see No. 120).

Early inhabitants of St. James lived in a cavern, called "Arcade," dug in a nearby hillside. Houses were built in 1857, when the Henson Wiseman family from Sioux City, as well as twenty families from Harrison County, Iowa, moved to the area. That year also saw the establishment of St. James as the county seat of Cedar County.

Colonel Van built the county's first sawmill one mile east of St. James in 1858. About a mile and a half south of St. James, a flouring mill was begun in 1864. It was completed four years later and the town gradually moved to its vicinity. In 1868 the Bow Valley Mill (see No. 26) was built along Bow Creek, about one and a half miles west of the original site of St. James.

30. First Cedar County Courthouse

The first Cedar County settlers intended to construct a fine building one a half miles north of the current location of St. James, at the site

of the old town. They hoped to build a suitable structure that could be sold to the county as a courthouse as soon as it was properly organized.

Two thousand dollars were invested in the courthouse, even though it was never completed. While on no occasion functioning as a courthouse, the building did house some of the earlier church services in the county. During the "Great Stampede" of 1864, the county's inhabitants decided to stay and defend themselves as best they could. For protection they built a fortification 100 feet square with an embankment nine feet high around the courthouse. Here the people of the area gathered to wait for the expected Indian attack which, surprisingly, never occurred.

31. Clay County, South Dakota

Though the earliest inhabitants of what is now Clay County are unknown, it is likely that nomadic hunters roamed the area several thousand years ago. These were succeeded by the Mound Builders and other nomadic people as early as 500 B.C. Around 1650 A.D., the Omaha and Ponca tribes migrated to the region but were displaced during the 1700's by the Yanktons, one of the seven Sioux divisions.

This tribe resided in the lower James and Vermillion river valleys where they hunted local game. While their principal village was located where the city of Yankton now lies, Mad Bull's band maintained an encampment of approximately one hundred lodges near the mouth of the Vermillion by 1850 (see No. 53).

The first major white activity in the area took place on August 25, 1804, when members of the Lewis and Clark Expedition visited Spirit Mound

(see No. 51). Before the party's return from the Pacific coast in 1806, fur traders began making their way up the Missouri to tap its resources. At least three of the nearly one hundred fur trading posts existing at one time or another in the Dakota Territory were located in Clay County. Reportedly, the Columbia Fur Company had a post opposite the mouth of Little Bow Creek around 1822. Its successor, the American Fur Company, later operated Post Vermillion (see No. 32) at the same spot, and Fort Vermillion (see No. 63) close the present townsite of Burbank. The abandonment of Fort Vermillion in 1850 brought fur trading in the county to a close.

Attention was focused on the area between the Big Sioux and Missouri rivers as a result of the speculative land boom underway by the conclusion of the 1850's. This led to a treaty with the Yankton Sioux on April 19, 1858, (ratified February 17, 1859) whereby the tribe consented to move to a reservation in what is now Charles Mix County, ceding the remainder of their lands to the government. The July 10, 1859, departure of the Yanktons signifies the official opening of Clay County for settlement.

At least seventy-five people are reported to have arrived by early 1860, most occupying the townsite of Vermillion (see No. 54) and nearby lands to the north and east. Norwegian families crossing the Missouri from Nebraska preferred the wooded area west of Vermillion and established what became popularly known as Lincoln settlement. A few settlers located near the current town of Meckling. The total migration to the area was small because of a lessening in the intensity of the speculative land boom by 1860, and the availability of more appealing land elsewhere.

For several years, little growth in population occurred. Preoccupation with the Civil War, the Indian uprisings of 1862, and hard times resulting from drouth and grasshopper plagues during the middle of the decade kept new settlers away, and even induced some already there to leave. Due to the lack of a railroad, few goods were produced beyond what could be consumed locally. Steamboats stopping on their way upriver to acquire farm produce for use aboard the boats, or as shipments for military posts, provided a limited market. Under such circumstances, few desired to obtain homes in the Dakota Territory prior to 1868.

During this period of economic stagnation, the area did progress politically. By an act of the First Territorial Legislature, the county was created April 10, 1861, and named for Henry Clay, the statesman, though some insist it was named after Clay Creek. The county was organized when the first county board met June 1, 1862, in the county seat of Vermillion.

By 1868, conditions within the county began to improve, thus leading to its increased development. The town of Vermillion thrived, as evidenced by the doubling of its population during the period 1868-69. At this time, new settlers moved up the Vermillion River Valley, occupying the land along Clay Creek and spreading onto the prairie. According to the 1870 federal census, Clay County had a population of 2,818, with the majority of the new residents arriving during the previous three years. This trend continued until, by 1873, virtually all available government land in the county was claimed and the Vermillion land office was transferred to Sioux Falls.

Construction in 1872 of the Dakota Southern Railway from Sioux City to Yankton contributed greatly to the Clay County boom. The tracks reached Vermillion on November 25, and by the following February the entire line was in operation. Mail service was vastly improved by the railroad, and new post offices sprang up between 1870 and 1875 in the rural communities of Alsen, Bethel, Bloomingdale, Burbank (see No. 65), Glenwood, Greenfield, Lodi, Meckling, Riverside, Saybrook, and Star Corner. A few others including Dalesburg, Komstad, and Marshalltown were later added.

The county's prosperity was short-lived, and by 1873 its residents were once again plagued by hard times. These resulted from the economic panic of 1873 and the swarms of grasshoppers that appeared periodically between 1873 and 1877, ruining corn crops and gardens as well as any unharvested wheat. Destruction of crops was exceptionally severe during the summer of 1874. As a result, residents of the devastated areas were left nearly penniless, causing many to seek temporary work elsewhere or move away. Several relief committees were established that winter to parcel out food and seed grain contributed by citizens of Iowa and other places. Additional assistance was provided by the federal government in the form of flour and bacon, distributed by the military department.

At a special election held in 1880, residents of the county voted to adopt township government. Accordingly, nine congressional and three fractional townships were divided and given their current names.

Shortly after the county's recovery from the hardships of the mid-1870's a tremendous flood engulfed the Missouri River Valley in April, 1881, inundating the lowlands and demolishing a major portion of Vermillion. In

addition to the heavy loss of property in Vermillion, extensive destruction of homes and livestock occurred in Meckling and Norway townships. Pursuant to the agreement of a joint boundary commission in 1897, the "Island" (see No. 59) resulting from a shift in the channel during the flood, was awarded to South Dakota and annexed to Clay County.

The reversal sustained by the county in 1881 was temporary. By the end of the decade, Vermillion had doubled in population from 714 to 1,490, while the county as a whole grew from 5,001 to 7,500. Early in 1882, a new courthouse was erected in Vermillion which served the needs of Clay County until replaced by the present structure in 1912.

Construction by the Chicago and North Western Railroad of a main line through Union County to Centerville and on northward in 1883, followed two years later by a branch line from Centerville to Yankton, brought enormous benefits to northern Clay County without endangering Vermillion's significance as a center of commerce. As a result of this railway, the town of Wakonda was formed in 1886 and experienced immediate growth; while Lodi, six miles away, declined and eventually died. The company began to curtail its service across Bethel, Star and Riverside townships in 1965 and entirely halted operations six years later.

The town of Irene was platted in 1893 where Clay, Turner, and Yankton counties join. It included parts of each of these counties, and developed as a result of its location near the branch line of the Great Northern Railroad from Sioux Falls to Yankton.

In contrast to previous periods when drouth and grasshopper plagues prevailed, Clay County's farm economy was in good health from the latter

portion of the 1890's till the beginning of World War I in 1914. Favorable weather conditions, high yields, and relatively good prices were the rule at this time. As a result, the residents of the county wished to put additional acreage into crop production by reclaiming the lowlands along the Vermillion River and its main tributary, Clay Creek. During unusually wet years, high water in the spring regularly covered these lands, spurring interest in drainage facilities.

Completed in 1908-1910, the $125,000 Clay Creek ditch project consisted of a sixteen-mile canal extending from Volin in Yankton County to the Vermillion River north of Vermillion. Draining approximately 70,000 acres, the project replaced a small ineffective drainage ditch built in 1887.

After a government survey was completed in 1908, the landowners of the Vermillion River Valley below Centerville approved a plan to straighten and ditch the Vermillion River for a distance of eleven miles to a location several miles north of Vermillion. This project, begun in 1910 and concluded in 1931, required construction of eight new bridges.

From 1885 on, proposals for draining the bottom lands along the Missouri in Norway Township was a matter of heated argument. Although approved by the Board of County Commissioners in 1886, work was not started until 1909, when reclamation of the lowlands along Clay Creek and the Vermillion River led to renewed interest in the project. Following numerous delaying tactics and lengthy litigation, the Clay-Yankton ditch was completed in 1925.

32. Post Vermillion

Post Vermillion, also known as the Upper Vermillion Post, was named for its location on the Missouri, upriver from the mouth of the Vermillion.

Originally operated by the Columbia Fur Company, the post was established in 1822 opposite the mouth of Petite Arc Creek (Little Bow Creek). Ten years later, it was acquired by the American Fur Company, with William Dickson serving as post factor from 1832 until 1840. During this period it was referred to as Dickson's (Dixon's) Post.

Following the 1843 visit of ornithologist John Audobon, the area surrounding the post has sometimes been called Audobon's Point.

33. Lewis and Clark, August 26, 1804

34. Highline Landing

This ferry site was named for the electric power line which also crosses the river at the same location. Ferry service on an irregular basis had been established by 1874 between St. James, Nebraska, and Meckling in the Dakota Territory providing mail, rail and stage connections. In 1934, the last ferry to operate at this site, the Clara S, was grounded and severely damaged. It had been used mainly to haul logs to the box factory in Yankton.

35. Sand Hill Reach

Sand Hill Reach, located approximately seven miles west of Vermillion, is the name given to the low sand hills formed by the shifting of the Missouri River in this area.

36. The Wiseman Massacre

On Tuesday, July 23, 1863, five members of the Henson Wiseman family were brutally murdered by Yankton and Santee Sioux Indians. Killed were his children whose ages ranged from five to seventeen. At the time of the massacre, neither of the parents were at home. Mr. Wiseman was with Company I, 2nd Nebraska Cavalry, which was defending frontier settlements from Indians near Crow Creek in the Dakota Territory. His wife was in Yankton purchasing supplies or she too would have suffered the same fate as her children. Unable to endure returning to the site of their children's death, the Wisemans spent the following two years with family and friends in the East. Upon their return to Cedar County, they relocated 1½ miles west of their former home. The Wiseman family is buried in Wynot Cemetery.

37. Wiseman Monument

Located near the road running past Pleasant Grove Schoolhouse, seven or eight miles east of Wynot, the Wiseman Monument memorializes the tragic deaths of the Wiseman children (see No. 36). It was built in 1926 on a spot near the scene of the massacre by members of the Wynot Culture Club, an organization of farm women from the Wynot area. Residents from every part of Cedar County contributed money toward the monument's construction. Just north of the marker is the one-room log cabin built by John Wiseman, the eldest son who was away at the time of the massacre.

38. Wiseman Site (25CD3)

This archeological site is located along the bluffs overlooking the Missouri River, about five miles northeast of Wynot. Found here was a

large Indian earthlodge village which was occupied during the period 1200-1450 A.D. More than thirty lodge depressions are visible on the ground surface.

39. Elm City

Located on the Missouri River about five miles west of Vermillion, this group of abandoned shacks was named for the elm groves found in the area. In 1858 Amund Hanson built the first log cabin there, but later moved to Iowa to join the cavalry after being burned out by Indians. In the early homestead years, he reclaimed his land and sold it to neighbors in small parcels. The spot became a steamboat refueling stop with the people making a living by cutting and selling wood. Subsequently, the name was changed to Jake's Landing after its owner, Norman Jaquith.

40. Dixon County, Nebraska

An act of Congress in 1854 organized the Nebraska Territory, an area containing the current states of Nebraska, Wyoming, Montana and the Dakotas. Soon after its organization, the Omaha Indians ceded to the government about 485 square miles of their land west of the Missouri including what is now Dakota County (see No. 88) and that portion of Dixon County below the south branch of Aoway (Aowa) Creek. Land north and west of this creek, to Fort Randall, belonged to the Ponca Indians.

The first settlers, to what later became Dixon County arrived on May 9, 1856. Although a few of the 250 to 300 that were to arrive during the next two years staked claims on the disputed Ponca territory, the majority settled on the open land along South and West Aoway Creeks. Squatter sovereignty prevailed in this region until 1858.

In the fall of 1856, Addison, St. Paul (see No. 87) and Ponca (see No. 85) were laid out. Ponca, first platted to twenty-four blocks by Frank West and Mr. Carson of Sioux City, was further platted to 320 acres the following year. Located where title could still be disputed by the Indians, these lands had not yet been surveyed by the government. The Dixon County area was, however, attached to Dakota County (organized in 1855) for legislative, judicial and revenue purposes.

Uncertainties of title and possession were significantly reduced in 1857 when the Ponca Indians transferred to the government all but a small tract of land west of the Niobrara River. With the opening of this land, the number of settlers increased and in December of 1858, Dixon County was organized by an act of the Territorial Legislature.

When the demand for organization was first voiced, Ponca recognized its promising future if included in the new county. Residents in the western part of Dakota County wanted Ponca to remain a part of it, so as to help in any future east-west struggles concerning the county seat, while those on the eastern side wished to be rid of Ponca and enough territory to the west to bring Dakota City (see No. 119) closer to the center, thus assuring its position as county seat. Working together, the Ponca and Dakota City voters elected a man sympathetic to their cause to the Territorial Legislature. He introduced the act to organize a Dixon County that included Ponca.

With Ponca now in the running for county seat, a heated contest developed between it, Concord and North Bend (see Nos. 47 and 45). The three towns were of approximately the same size, each containing about

four houses. To assure victory, Concord and North Bend combined forces to plat the town of Dixon (see No. 46) between them. Their efforts, however, were unsuccessful and Ponca won by a small margin.

Transportation was a major concern to Dixon County residents. Sioux City, their main market, was a two-day round trip by wagon from Ponca. The first railroad project for the region, originated by S. T. Davis of Sioux City in 1869, proposed to build a road from Sioux City, through Dixon County to Niobrara. Money was needed to finance such a project, so the county was asked to vote $68,000 towards its construction. Feeling they were unable to incur such a debt, the citizens rejected the proposal, thus leading to the railroad's abandonment.

In July, 1873, the St. Paul and Nebraska Company announced the building of a railroad from Sioux City to Jackson and on into Dixon County. This amounted to nothing but talk.

The 1874 discovery of gold in the Black Hills once again led to discussions of a railroad. Dixon County, on the direct route from Sioux City to the Black Hills, was sure to be included in any plans. Several men, meeting at Sioux City in 1875 founded the "Covington, Columbus and Black Hills." This road was to start at Covington (see No. 97), proceed west through Dakota, Dixon, Cedar and Knox counties, and branch out with one line to the Hills and the other to Columbus, where it would connect with the Union Pacific.

In soliciting funds, the railroad's founders requested county coupon bonds valued at $87,000, which when brought to a vote on December 27, 1875,

passed with more than two-thirds of the total turnout. Grading began at Covington on April 20, 1876, and by September, cars were running between Ponca and Covington.

The new railroad had only a 3½ foot gauge (not standard), and was constructed with inferior materials and labor. Benefits of the line were minimal compared to what they could have been. Grain, cattle or hogs could not be shipped directly to Chicago, but had to change cars at Sioux City or Covington, thus making costs as high as if sent by wagon.

Mobs in Cedar and Knox counties destroyed their bonds. No longer able to meet expenses, the company was forced to halt construction of the road. It somehow managed to stay in business until May, 1878, when being $75,000 in debt, the railroad was placed in the hands of a judge from Des Moines.

In October, 1879, the Covington, Columbus and Black Hills was sold to the Chicago, St. Paul, Minneapolis and Omaha Company, which widened the track to standard size and replaced the ties and rails with new material. Further improvements included the reconstruction of the roadbed and bridges. Because the people of Dixon County had placed upon themselves a bond indebtedness exceeding state limitations, the Supreme Court, in 1884, freed them of all debts relating to the Covington, Columbus and Black Hills railroad.

41. Lewis and Clark, August 25, 1804

42. Steamboat North Alabama

Engaged in trade on the upper Missouri, the North Alabama sank on October 27, 1870, at the Bow River Bend (Bow Creek) above Vermillion.

43. North Alabama Bend

This bend is located southwest of Vermillion. Usually referred to as North Bend, it was actually named for the "North Alabama," a steamboat that sank there in 1870.

44. Deuel and Compton Sawmill

Located first at North Alabama Bend on what was the Nebraska side of the Missouri River in 1857, it was moved across the ice in the winter of 1859-60 to its new location near the present mouth of the Vermillion River.

45, 46 & 47. North Bend, Dixon and Concord

In the fall of 1858, the town of Concord was started near where Lime Creek enters the Missouri River. North Bend was begun about the same time just a mile north of Concord. Both towns wanted to be the county seat and the antagonism this generated resulted in the platting of Dixon, located between Concord and North Bend, in hopes of uniting them.

In 1858, when the county seat was awarded to Ponca, Dixon vanished without ever having a building on its site. Within a few years Concord and North Bend also disappeared, their buildings either torn down or moved away and their townsites becoming farms.

Towns with the names of Dixon and Concord now exist in the southern portion of the county.

48. Lewis and Clark, August 24, 1804

49. Vermillion Ferry

Lime Creek, Lunes Creek, Turkey Ravine, Brookey Bottom, Mulberry Point and Douglas Landing, all within six miles of Vermillion, served at various times as landing sites for the Vermillion Ferry. Frequent change in the location of the landing was necessitated by the constantly shifting current of the Missouri River.

50. The Narrows

"The Narrows" describes the narrow, swift channel of the Missouri River southwest of Vermillion.

51. Spirit Mound

The Yankton Sioux Indians, believing that the mound was the dwelling place of small devilish spirits in human form, called it Canotila Wiconi (a mountain of little people) or Paha Wakan (spirit hill or mound).

Located approximately six miles north of Vermillion, the mound was visited by Charles LeRaye in 1802 and two years later by Lewis and Clark. LeRaye, a French fur trader who had been a captive of the Sioux, wrote in his journal that the purpose of the spirits was to make sure the Indians killed only the wild game they needed and to prevent any waste.

The mound is cone-shaped and rises to a height of about 400 feet. Its central core consists of Niobrara Chalk, a composition of microscopic fossil shells deposited in the ancient sea. Glacial action is responsible for the mound's present form while the Wisconsin Ice Sheet partially covered it with debris.

52. Vermillion Bluff Village

Located in the southern portion of the present town of Vermillion overlooking the Missouri River, this village was inhabited by the Yankton Sioux as late as 1858. Some feel that the site may have been an Oneota village dating somewhat later than A.D. 1000, while others doubt the arrival of Oneota peoples in this area prior to A.D. 1600. Evidence exists suggesting that the village may have been occupied by even earlier Indians.

53. Mad Bull's Village

By 1850 a Yankton Sioux village occupied the present location of Vermillion. The chief of these Indians was tabo lo ka (bull) canzaka (mad). In 1859, when a treaty was signed opening Clay County to settlement, the village contained about one hundred lodges. Mad Bull's band were agricultural people, having planted corn and other vegetables before the arrival of settlers. Under terms of the treaty, these Indians were relocated to the Sioux Reservation near Greenwood, in what is now Charles Mix County.

54. Vermillion

Vermillion (spelled Vermilion in early days) takes its name from the nearby river which is believed to have gone by the Sioux name, Wase Wakpala, meaning "red stream." At a later time, this would have been translated by French traders to "Vermillion." A second explanation says that Vermillion took its name from a little red fort near Burbank. This was probably Fort Vermillion which disappeared in 1851 (see No. 63).

Located in Sections 13 and 24 of Vermillion Township, it was originally laid out as a town site below the bluff in 1857 by Frost, Todd and Company (see No. 56). A village used by the Yankton Sioux Indians as late as 1858 was located atop the bluff, in the south part of the present city of Vermillion. Evidence indicates it was once the site of an Oneota village dating later than A.D. 1000, and may possibly have been used by even earlier people (see No. 52).

The town, officially founded in 1859, prepared its articles of incorporation in 1860 and filed them in 1862. Vermillion wasn't platted until 1869, ten years after the first settlers came. This plat totalled 120 acres, presently including the area from Dakota Street west to a point one-half block west of Austin School and from the Missouri River north to Vine (now Main) Street. This original grant was issued by the government at a cost of $171.73. Probate Judge Ole Bottolfson administered the grant and distributed titles to the original settlers.

Dr. William Jayne was appointed by Abraham Lincoln to be the first governor of the Dakota Territory, established March 2, 1861. As governor, Jayne had the authority to determine where in the territory to place the temporary capital until the legislature could select a permanent seat of government. This created a tremendous rivalry among the small towns.

During that first year it was discovered that the governor and other territorial officers were journeying to the Dakota Territory from Sioux City. Vermillion prepared a banquet, only to find at the end of the day that they had honored the wrong man. The governor had come through Vermillion later in the day, stopping for only a brief rest, and proceeding on to Yankton, which became the temporary and permanent capital of the territory.

Although Vermillion was not named the territorial capital, it did become the seat for a judicial district. The first term of court in the Dakota Territory was held there in August, 1861. In 1864, the town became the location of the first land office and the first permanent schoolhouse in the territory.

From 1868 to 1869, the town's population doubled. Village government was organized in 1873, the same year the land office was moved to Sioux Falls. This move occurred primarily because the majority of land along the Missouri had already been claimed, whereas the Big Sioux Valley was just opening to settlers.

Four years later, in 1877, Vermillion's village government was replaced by an aldermanic system in accordance with a territorial statute providing for the incorporation of the town. At the same time Vermillion became an independent school district.

The flood of 1881 struck Vermillion particularly hard on March 27, sweeping away three-fourths of the town, and causing it to be rebuilt atop the bluff. During this flood, the Missouri cut a new channel across the narrow neck of land south of town, making Vermillion an inland city about six miles from the river and eliminating about seventeen miles of steamboat passage.

In 1884 the town was replatted with the name of its principal business street changed from Vine to Main.

Receiving a charter from the Territorial Legislature in January, 1867, the Dakota and Northwestern railroad began a preliminary survey from the Big Sioux River to Yankton in preparation of a petition for a federal land

grant. It was not the purpose of the company to construct and equip the road, but to build up vested corporate rights, secure Congressional aid in the form of a land grant and then dispose of the franchise to reputable railroad capitalists.

When the company failed to get the land grant, a group of Yankton businessmen organized the Dakota Southern Railway Company for the purpose of constructing a line from the territorial capital to some undetermined point on the Iowa border. Their intention was to bypass Sioux City in hopes of diverting the upriver traffic in government supplies for military posts and Indian agencies. The desire of these businessmen ran counter to the economic interests of Elk Point and Vermillion, so little financial support for the Dakota Southern came from Clay and Union counties at this time.

The company's headquarters was subsequently transferred from Yankton to Vermillion. In 1872 Elk Point Township and the town of Elk Point voted funds for the line's construction, thus assuring its passage through Elk Point and Vermillion. Although Vermillion businessmen did raise $4,000 for a depot, neither that city or the county voted any bonds. The Dakota Southern was opened for traffic in February, 1873, having reached Vermillion on November 25, 1872.

On November 12, 1931, the spelling of the town's name was officially changed from Vermilion to Vermillion by the U.S. Geographic Board.

55. Old Public Levee

Prior to the flood of 1881, the town of Vermillion was located along the banks of the Missouri. Just south of the intersection of

Dakota Street and Broadway was the town's steamboat landing. This levee was used with more consistency during the period 1834 to 1880 than any other Missouri River landing.

56. Frost, Todd Trading Post

This post, opened in 1857 by Captains Frost and Todd, was located at the mouth of the Vermillion River in the area that was then a part of the Minnesota Territory. During that period, the Vermillion River entered the Missouri at the townsite of Vermillion.

57. Putnam's Landing

Before the 1881 flood, Edward E. Putnam operated a boat landing on the north bank of the Vermillion River near its mouth. The area later served as a canoe basin and is believed to be the site of the earliest fur trading post on the Vermillion.

58. Whirlpool

A whirlpool, described on a 1900 atlas as the "Haunted Pool," was formed by fast moving waters which struck the bluffline near the bottom of Ravine Road in Vermillion. It is believed that a railroad engine and box car are lost in its depths.

The April 29, 1875, issue of the Dakota Republican first mentioned the whirlpool, placing its location a few hundred yards east of where the Missouri and Vermillion rivers then met.

59. Island

The area known as Island is located south of Vermillion between the

Missouri and Vermillion Rivers, extending from the old Missouri River bed to the present mouth of the Vermillion. Formed by the flood of 1881, it is not a true island, although one previously existed in this stretch of the Missouri. The flood cut a new channel across a half mile neck of land creating the island from land which had previously been part of Nebraska and shortening the length of the river by twelve miles.

After the flood, continuous shifts in the river made location of a definite boundary impossible. As a result part of the island was called Asymptote, a French word meaning "not falling together" or "uncertain boundary." The island became notorious for the lawlessness of its residents.

In 1885 the Territorial Legislature prohibited the sale of alcohol within three miles of the University of South Dakota (located in Vermillion). To avoid compliance with this law, saloon keepers simply moved their businesses to the island. To the Dakota authorities they claimed they were in Nebraska, and to the Nebraska authorities, they said they were in Dakota. This situation brought about another name for the island--"No-Man's-Land."

The island was awarded to South Dakota and became part of Clay County in 1897.

60. Prehistoric Mounds (Ufford Mounds)

Five mounds, all dating from A.D. 700 - 800, have been located in the northeast quarter, Section 21, Fairview Township. They were built by Indians of the Plains Woodland Tradition who came from the east as

early as 500 B.C. Referred to as Mound Builders, these people sustained themselves through hunting and farming. This site has also been called the Ufford Mounds for William Ufford, the early settler of this land.

61. Gunderson Bend

Prior to the flood of 1881, an S bend existed in the Missouri near the present mouth of the Vermillion River. Also called South Bend, it was named for Harvey J. Gunderson at the close of the Civil War.

62. Buffalo Prairie

The lands below Vermillion and just west of present-day Burbank were named Buffalo Prairie by Lewis and Clark. Here, the party shot its first buffalo. In 1838, Joseph H. Nicollet, who was assigned the task of preparing a regional hydrographic report, referred to the area as Huppankutey. This was derived from a Sioux expression, "Huppan-o Kutey" or "Upan Kutept" meaning "they hit at the elk."

63. Fort Vermillion

Fort Vermillion, the easternmost fur trading post in Clay County, was located near the present site of Burbank. In 1835, while the region was still part of the Michigan Territory, the post was established by Francois LeRoi following his arrival on the American Fur Company steamer, Yellowstone.

The fort was used as a meeting place in 1839 by Father Pierre DeSmet and the Sioux chief, Wamdesapa. DeSmet arranged the meeting in hopes of ending Sioux attacks against the Potawatomi tribe at Council Bluffs.

In 1845 a party of ninety Mormons led west from Nauvoo, Illinois, by James Emmett spent the winter of 1845-1846 at Fort Vermillion. Six years later the post was permanently closed.

64. Alec C's Point

Prior to the flood of 1881, a point of land existed on a bend of the Missouri River just south of Burbank. It was named after the first white settler in Clay County, Alexander C. Young, a retired fur trader who arrived in 1855, married a Yankton Dakota woman and later accompanied her band of Indians to Yankton.

65. Burbank

The town of Burbank, located in the northeast quarter, Section 35, Fairview Township, is situated on the approximate site of Miles Hall's Road House. The town was known as Victor's or Victoria's Point and Green Point before receiving the name Burbank. Its original location was about one mile east of the present site.

Evidence indicates that the town was first named after J. Victor Cordier or Charles Victor. Cordier lived near the original townsite while Victor had squatted on a claim in the area in 1858. The name was changed to Green Point in 1864 and to Burbank eight years later in honor of John A. Burbank, Governor of the Dakota Territory. He was also a director of the Dakota Southern Railway, which was constructed through the county at this time.

The town, formed in 1873, was never incorporated.

66. Negro Bend

Located south of Burbank, this bend in the Missouri River was named for a small group of Negroes who lived there. They made their living by cutting and selling wood for the steamboats which refueled at this point. (Steamboats on the upper Missouri burned about twenty-five cords of wood per day.)

67. Burbank Lake

Burbank Lake, formed by a shift in the Missouri River channel, is located south of the town of Burbank. The Ionia Ferry operated near the site in 1859.

68. Lewis and Clark, August 23, 1804

69. Union County, South Dakota

An act approved April 10, 1862, by the first Legislative Assembly of the Dakota Territory provided for the organization of Cole County, occupying most of what is now Union County. It was named in honor of Austin Cole, a member of the Territorial Legislature.

"Victoria," which was to be located in Section 10, Township 89, was designated as the county seat on May 7, 1862. This site would now be near McCook Lake in the extreme southeastern portion of the county (see No. 92). The next day, May 8, another act was signed into law giving legal voters the opportunity to approve the location of the county seat at the first general election.

In 1863, because of sympathy for the northern cause in the Civil War, the county began to be referred to as Union. Subsequently, the Territorial Legislature rearranged the boundaries of Cole and Lincoln counties, and officially changed the name of the former to Union County. Two teirs of townships which had previously been part of Lincoln were added to Union, thus extending its northern limits. The seat of government for the new county was placed in Richland, a town which was to be built on the bluff in Section 29, Township 92 (see No. 81). Proving unsatisfactory,

the county seat was removed from Richland by a vote of the people in April, 1865, and fixed at Elk Point (see No. 79), where is has since remained.

Union County came into possession of the present courthouse block in 1867, when Eli B. Wixson, president of the Elk Point Town Council, deeded the property to the county as a site for its courthouse. In 1879, the County Commissioners appropriated $1,200 for improvements to the original structure with the citizens pledging $225 more, if needed. A wing equal in height to the existing building was constructed on both its north and south sides. Nineteen years later, a replacement facility was erected on the same site and served the needs of the county for nearly 80 years until it was demolished in 1976 to make room for a new structure.

In 1873, railroad service was provided through Union County by the Dakota Southern, which later became a branch line in the Chicago, Milwaukee and St. Paul system.

Prior to the building of the railroad, a military road was built through the bottom lands of Union County along the Missouri River from Sioux City to Fort Randall. Although primarily established as a mail and freight route, it was used by General Alfred Sully in his campaign against the hostile Indians of the upper Missouri.

70. Steamboat Kate Sweeney

Named after the daughter of Captain W. D. Swinney (Sweeney was actually a misspelling of Swinney) of Glasgow, Missouri, this side-wheeler was owned by Captain P. M. Chonteau. An extremely successful

and popular boat, she was carrying furs from the Rocky Mountains when she sank on August 1, 1855, at a bend in the Missouri below the Vermillion River. The deck crew started to walk to Sioux City, but were never seen again. They were believed to have been killed by Indians. In honor of the sunken steamer, this stretch of the river henceforth was known Kate Sweeney Bend.

71. Steamboat Urilda

On April 24, 1869, the Urilda struck a snag and sank at the foot of the Kate Sweeney Bend.

72. Sacred Rock

This rock was rumored to have been located a short distance west of the Ionia Volcano (see No. 73). Stories described it as standing several hundred feet high, and being honey-combed with numerous passages formed by the action of the ocean that had once covered the entire area. Reportedly, the Indians built a crude platform or alter within one of the passages which they used for torturing their victims before sacrificing them to the volcano.

One legend tells of a young Wapaha warrier, Wa-che-pah, who was captured along with many others in a battle with the Arapahoes. The captives were taken to the main Arapaho village where Wa-che-pah noticed his younger brother and sister among the prisoners.

He went to the enemy chief to request that the children's lives be spared. The chief told the warrior that he would spare one of the children

if Wa-che-pah would be the executioner of the other, prior to his own death. Wa-che-pah agreed, deciding to spare his brother while still hoping to find a means of escape for his sister.

The following day, the prisoners were taken to the great rock for torture. Wa-che-pah was given a knife with which to take his sister's life. Instead of using it against her, he killed the Arapaho chief. A great riot broke out between the two tribes, filling the cavern with dead bodies. Wa-che-pah and the other prisoners forced most of the Arapahoes from the cavern just as the gound opened up swallowing the rock and all those still within its passages.

When Lewis and Clark passed through the area, the site where the great rock supposedly stood was covered by a marshy pond.

73. Ionia Volcano

The "volcano" was first discovered by white men in 1804 during Lewis and Clarks' exploration of the lands along the Missouri River. Located about twelve miles above what is now Ponca, it was situated on a bluff, approximately 1,100 feet long and 160 feet high, that sloped irregularly to the river.

The area did exhibit some properties resembling volcanic activity. Upon placing one's ear to the ground, sounds from beneath the surface could clearly be heard. Flames, usually seen at night, occasionally broke forth. Steam escaped from cracks and often the heat from the openings was too intense to permit close approach.

Some of the volcano's limestone was changed to quick lime, while the temperature in parts of the interior could raise it to red heat. Crystals

and crustations of mineral salts were found in abundance. The rocks of the area, believed to be of the Cretaceous Age, were composed primarily of carbonate of lime and crystals of iron pyrate.

The heat was not actually the consequence of internal furies but rather resulted from the decomposition of the iron pyrites, carbonate of lime, and magnesium, caused by their exposure to air.

The volcano was supposed to have been regarded with great fear and superstition by the Indians, leading to numerous stories and legends concerning it.

In 1878, most of the volcano was washed away by the Missouri River.

74. Ionia

In 1856, a party from Sioux City founded the site of Ionia; however, they built no houses nor did anything to hold the claim. As a result, the land came into the possession of L. T. Hill in 1858.

From 1860 to 1870 Ionia was second in importance only to Ponca among towns in Dixon County. Hill, in 1860, built Ionia's first ferryboat, thus assisting farmers in crossing the Missouri River to take their produce to Fort Randall. In 1862 Hill built a steam saw mill at the site of the town. This was moved in 1865 when the excessively high level of the river cut away at the bank, endangering the structure. A grist mill was added in 1867.

Three years later, in 1870, the Ellyson Brothers built the first steam ferryboat on the Missouri River above Sioux City. It ran between Ionia and the Dakota bank.

By 1874, the river posed a much greater threat. The cutting of the bank increased continuously until 1878, when many of the town's buildings were moved to safety. Later that year, the Missouri River swept most of the town away, leaving only the ferryboat and the post office.

75. Ionia Ferry

The ferry, named after the town in Dixon County, was first operated in 1859 by Frank Verzani, an Italian immigrant. In 1867, it was sold to E. F. Lyons who operated it until 1880 when it was discontinued. The ferry was used by most of those settling in and west of the Meckling area of the Dakota Territory.

76. Lamprecht Site (25DX16)

A woodland earthlodge of the Nebraska culture, this site is located on the land known as Indian Hills in Section 11 of Newcastle Township.

77. Ancient Arapaho Village

Located about two miles south of the Ionia Volcano (see No. 73), this spot is believed to be the site of an ancient village of Arapaho ancestors. Traces found by Lewis and Clark in 1805 indicated a town covering several hundred acres.

Stories passed down by other Indian tribes described the Arapahoes as extremely brave, warlike and cruel. They continually waged wars with their neighbors, particularly the numerous tribes across the river called Acoutahs (later Dakotahs).

The Arapahoes were fire worshipers. Their sacrifices to the god of fire included their own aged and sick as well as all prisoners taken in wars.

There was great fear and superstition concerning the volcano, the ground near which was sacred. Most of the time, no one was allowed in this area except the ruling chiefs and their medicine men. This decree, however, was lifted every full moon to allow all to observe the sacrificial ceremonies.

Stories indicate that before the human sacrifices were thrown into the volcano, they were tortured at the "sacred rock" (see No. 72) just a short distance to the west of the volcano.

While occupying the lands west of the Missouri, the Arapahoes were supposedly in the height of their glory and strength. It was the disaster of the "sacred rock" which showed their home accursed by the Great Spirit, forcing them further west into Wyoming.

78. Lewis and Clark, August 22, 1804

79. Elk Point

A tree-lined runway for elks lying between the Missouri and Sioux rivers was called Elk Point by the Indians long before any white settlement developed there.

Lewis and Clark saw this area in 1804 when members of their expedition hunted buffalo at the present site of the town.

In 1859 Eli B. Wixson from Sioux City selected land and built the first cabin on the elk point. That spring the water covered all of the

land except the locality of the current town of Elk Point. This, and its distance from Sioux City, were his reasons for locating there. During the following winter, Wixson's only neighbors were a group of about seventy-five Santee Sioux who camped there for hunting purposes.

The town of Elk Point was surveyed in 1861 and incorporated in 1862. Actual town growth began that year, following Wixson's construction of a log hotel. This was also used as a post office and a station for stage coaches traveling between Sioux City, Elk Point and Fort Randall.

Elk Point, not being a river town, depended solely on wagon transportation. The nearest railroad was in Sioux City--a great distance to haul necessary supplies.

In January, 1872, a meeting was held to discuss the proposed Dakota Southern Railway which was to be completed from Sioux City to Yankton by January of the following year. To insure its passage through Elk Point, the citizens were asked to raise $25,000 and donate a piece of land for a depot. A vote was taken on May 1 resulting in Elk Point Township being bonded for $15,000 and the city of Elk Point for $5,000.

The railroad was completed to Elk Point by fall. It went no further until Clay County voted the bonds required by the company. The Dakota Southern subsequently became a branch line of the Chicago, Milwaukee and St. Paul road.

80. First Homestead in South Dakota

A small graveyard north of Richland in Union County is all that remains to mark the first homestead filed in South Dakota, and possibly in

the United States. (A Nebraska homestead also claims this distinction.) The entry was made by Mahlon Gore at Vermillion, five minutes past midnight on January 1, 1863, the date when the Homestead Act, signed by Abraham Lincoln, became effective.

Gore's claim consisted of a quarter section of land on the Big Sioux River bottom. He located there in July, 1862, building at the base of the bluff a small house, part hut, part cave, in which he lived until moving to Vermillion later that year.

81. Richland

Richland was provided for in 1864 by an Act of the Territorial Legislature calling for creation of a county seat in Section 29, Township 92. This location proved unacceptable and the county seat was moved to Elk Point in 1865.

82. Texas

On the bank of the Missouri River about six miles south of Elk Point, the community of Texas was established sometime in the early 1860's. The town is said to have had a hotel and other business places as well as Stow's sawmill which furnished lumber for several buildings in Elk Point.

Texas flourished in the late sixties and early seventies. Having no railroad connection, a steamboat landing provided the town with its primary means of transportation.

It is not known when the town was abandoned but it is believed to have been in the late seventies or early eighties. All that remains to mark its location is a small cemetary.

83. Steamboat Leadora

Involved in Fort Benton trade, the Leadora and its 145 tons of cargo sank in 1867 at the Ponca landing.

About 45 years later (1912) the Leadora was discovered and excavated. At the time of its sinking, a shipment of whiskey was reportedly included in its cargo. The man doing the excavating claimed to have found this whiskey and proceeded to market it from Chicago to San Francisco for a dollar per shot. (The usual price for a shot of whiskey was ten cents.)

Local people watched much of the digging process and knew the whiskey was a hoax, thus preventing the establishment of a local market.

84. Peterson Site (25DX1)

The remains of an old Indian village have been found along the Missouri River bluffs, one mile northeast of Ponca. Material unearthed here indicates that the site was occupied during the Prehistoric Farmers period (ca. 1000 - 1450 A.D.) by Nebraska culture people.

85. Ponca

In October of 1856, two men from Sioux City platted the first 24 blocks of the town of Ponca in Dakota County. Sometime the following year, it was further platted to 320 acres. This land had not yet been surveyed by the government and was located where title could still be disputed by the Indians. A map was completed on May 5, 1858, after coordinating it with the results of a government survey. It was filed with the Dakota County Clerk on June 15 of that year.

Ponca remained a "paper" town until late in the fall of 1856, when Henry, Frank and William Hoese built its first house. In December a group of men from Ohio started a steam sawmill on the Missouri River bottom, a mile below Ponca landing.

Additional houses, a store, and a blacksmith shop were built in 1857. The number of new settlers was much greater than in the previous year primarily because the Indians assigned their claims to the government, allowing the land to be surveyed and brought into market. This significantly reduced the uncertainties of title and possession.

During that summer, the residents realized that their future would be more promising if Ponca was included in the county then being formed (Dixon).

Residents in the western part of Dakota County wanted Ponca to remain a part of it so as to help in any future struggles (between east and west) for the county seat. Those on the eastern side wanted to be rid of Ponca and enough of the territory on the west to bring Dakota City closed to the center and assure its position as county seat.

In 1858, Ponca and Dakota City voters successfully elected a man to the Territorial Legislature who was sympathetic to their cause. He introduced an act organizing Dixon County, of which Ponca was to be a part. Shortly after passage of this act, Ponca won an election and became the county seat.

This victory marked the end of the town of Dixon as well as leading to the later disappearance of both Concord and North Bend (see Nos. 45, 46 & 47).

86. Mendenhall Site (25DX7)

Located on the south side of a hill, one mile east of Ponca, are the remains of an Indian earthlodge village dating from the Prehistoric Farmers period (approximately 1000 - 1450 A.D.).

87. St. Paul and Addison

In the fall of 1856, the towns of Addison and St. Paul were surveyed on the hills a short distance southeast of Ponca. Because they were on undisputed land south of the creek (Aoway or Aowa Creek), it was believed that one of them would take precedence as the coming town. Neither developed beyond platting, and both became settlers' farms.

88. Dakota County, Nebraska

Although history is unsure of when the first white man entered Dakota County, Father Marquette's map of 1673 shows an accurate drawing of the Missouri River in this area, indicating some travel through what is now Dakota County. It is known that on May 29, 1739, the French-Canadian fur traders, Paul and Pierre Mallet, with six other men, crossed the Missouri just below Dakota City enroute to Sante Fe. Representatives of the Spanish government entered the county in the late 1700's for the purpose of building a fort and trading post near the Omaha Indian village, Tonwantonga (see No. 127). The resultant Fort Charles (see No. 134) was the Spanish response to rapid British advancement down the Missouri River.

As part of the original Louisiana Territory, Dakota County was explored by Lewis and Clark during their two-year expedition. The party reached the area in August of 1804, camping just below present-day Dakota City

for one week, while holding council with Oto chiefs and searching for the Omaha. It was at this camp that Sergeant Floyd became fatally ill (see No. 130).

On June 4, 1812, that portion of the Louisiana Territory containing Dakota County was organized as the Territory of Missouri. Little took place in the area until the mid-1800's when two groups of Mormons, (in 1847 and 1853) crossed the county while traveling to Salt Lake City. The latter of these groups was forced to spend the winter near the old site of St. John's (see No. 91).

The Dakota County area was officially opened to settlement in 1854 following a treaty with the Omaha Indians by which they ceded the government all their lands west of the Missouri River, except that portion retained for a reservation. That year Gustave Pecaut, believed to be the first white man in the county, built a log cabin by the river where South Sioux City now stands.

For more than thirty years after Missouri was admitted as a state, Nebraska (once a part of the Missouri Territory) was practically without a government. On March 4, 1854, Congress passed an act establishing the Nebraska Territory. One year later, the first Territorial Legislature established Dakota County in response to a petition signed by thirty-one people. Its original boundaries included a portion of what is now Dixon County.

George T. Woods, Chauncey A. Horr and Moses Kreps built a second log cabin in the county and laid out the city of Omadi in 1855 (see No. 125). While that town thrived in 1856, St. John's (St. Patrick's Colony) was

settled by a group of Irish, Pacific City (see No. 99), Blyburg and Dakota City (see No. 119) were platted, and Harney City was laid out on paper. By the following year St. John's was incorporated, Omadi had a school, and Pacific City contained ten houses. South Sioux City (see No. 100) was platted near the new sites of Newport (previously planned as Harney City) and Stanton (see No. 98).

At one time ten towns along the river, from Blyburg to Ponca (see No. 85) contained over 10,000 acres. Of these, only Dakota City, South Sioux City and Ponca remain. Logan (see No. 118) located along the Missouri River where Crystal Lake is now, reached its peak in 1858, but was deserted two years later. The river drove off the inhabitants of St. John's and Omadi about ten years after their initial settlement, Blyburg never contained more than two houses, and Franklin City and Verona, platted and incorporated in 1858, never contained any houses. Dakota City, chosen as the county seat shortly after organization, and South Sioux City absorbed most of those who abandoned other towns. Thirty years after being platted, South Sioux City was incorporated to include Pacific City and Stanton. Newport, changed to Covington (see No. 97) and incorporated in 1870, was annexed by South Sioux City in 1893.

The townsite of Homer, first claimed in 1856, received its first house in 1871. The next year Omadi's post office was moved to Homer, four years prior to the town's incorporation in 1875.

Organized in 1867, the Sioux City and Columbus was the first projected railroad in the county. A survey made in 1868 followed a route later used by the Chicago, St. Paul, Minneapolis and Omaha to Emerson. The

weather was intensely cold and a severe snowstorm overtook the party of surveyors, freezing some of them. One of the company's organizers was then sent to Washington to get a restoration of the Union Pacific land grant to apply on this road. Following Congress' negative response to this request, plans for construction of this line were abandoned.

On December 27, 1875, a special election was held to vote $95,000 in bonds for the Covington, Columbus and Black Hills railroad company. Preparations were made at once and on the 24th day of June, 1876, at 9:30 a.m., Judge Hubbard drove the first spike on the road, marking the beginning of actual railroad construction in the county. Less than a week later, the county's first engine, the "Dakota No. 1" crossed the river from Sioux City.

Soon constructed through the county, from Covington, via Dakota City and Jackson, the road covered a distance of 22¼ miles. Before completion of the narrow (3'6") gauge track, bonds were issued to the company for the county's share of the cost. Most of the area was disappointed with the service of the Covington, Columbus and Black Hills. Shortly thereafter the Chicago, St. Paul, Minneapolis and Omaha purchased the Covington, Columbus and Black Hills, changed it to standard gauge in 1880 and built the road to Emerson via Hubbard. By 1893, the company owned more than forty miles of track in Dakota County, valued at $190,000.

In 1889 the Sioux City and Ogden Short Line Company graded a railroad bed from South Sioux City to Jackson, passing north of Dakota City up the valley of Elk Creek. A winter bridge was completed allowing engine No. 374 to cross at Covington on January 27, 1890.

Just as early towns grew up along the river for transportation purposes, so later towns developed beside the railroad lines. In 1880, Hubbard was laid out by the Chicago, St. Paul, Minneapolis and Omaha Railroad. That year, this railroad bought one hundred acres for a townsite in the extreme southwestern part of the county, at the junction of its road and the Sioux City, Omaha and Norfolk line. Emerson, first known as Kenesaw Junction and later renamed for Ralph Waldo Emerson, was established in 1881.

Two such railroad towns that no longer exist are Coburn Junction and Goodwin. Coburn Junction, or Coburn, located five miles west of Dakota City, was a train depot. The depot burned in 1919, was rebuilt on the same spot, but was eventually deserted when the discontinuation of passenger trains eliminated the need for a depot agent. By 1940, the depot, sold as private property, was moved to South Sioux City as a home. Goodwin also developed as a train stop but closed down during the late 30's because of the advancement of automotive transportation.

89. Lewis and Clark, August 21, 1804

90. Lewis and Clark, September 3, 1806

91. St. John's

"St. John's Fountain Bluff," located along the old Missouri River bed about a mile and a half north of the present site of Jackson, was founded in August of 1855 by Father Jeremiah Trecy and a group of Irish from the Dubuque area of Iowa. The following year it was surveyed, platted, and

renamed "St. John's City." Incorporated in 1857, this first Catholic parish in Nebraska had a population of two hundred by 1858.

Father Trecy left the townsite in 1860, bound for Washington to obtain formal consent to establish a mission among the Ponca Indians. While there, the Civil War broke out and Father Trecy became an Army chaplain. He never returned to the colony.

With Father Trecy's departure and the increasing threat posed by the Missouri River, the townsite lost favor with its inhabitants. In 1860, the church was moved to the present-day site of Jackson. The remaining buildings followed until the original site was completely abandoned by 1866.

The new town that grew up around the church, Franklin, was later incorporated under the name of Jackson because "Franklin" had already been given to another post office in the state.

92. Victoria

An act of the first Legislative Assembly of the Dakota Territory in 1862 called for a county seat named "Victoria," to be located near what is now McCook Lake in Section 10, Township 89 of southeastern Union County. As a result of a later legislative act, the county seat was moved in 1864 to Richland (see No. 81).

93. Woodbury County, Iowa

Prior to April 20, 1836, the area which is now Iowa was included in the Michigan Territory. At that time the Territory of Winconsin was created, encompassing the present states of Wisconsin, Minnesota and Iowa.

In November of 1838 Congress defined the boundary between the Wisconsin and Missouri territories, thus creating Iowa. At first only a few counties in the extreme eastern portion of the territory were established. Although various tribes still roamed the western area, the Sac, Fox, Western Sioux, Omaha, Iowa and Missouria Indians had ceded to the United States a portion of the western Iowa slope, including what is now Woodbury County, on July 15, 1830.

William Thompson was the first white man to settle in the area, and with his brother and another man began the settlement of Floyd's Bluff or Thompsontown (see No. 115) near the grave of Sergeant Floyd in 1848. A year later Theophile Bruguier (see No. 95) became the first of many Frenchmen to begin homesteading the region.

Five years after Iowa was admitted to the Union, the land now known as Woodbury County was established and named Wahkaw. An act approved January 12, 1853, provided for the organization of the county from March 1 of that year onward. Three commissioners from other counties in the state were to meet July 2 to locate the county seat. On that date Thomas Griffey of Pottawattomie County was made organizing sheriff and the county seat was placed at Thompsontown, officially named "Floyd's Bluff." During the same year the name of the county was changed to Woodbury, in honor of Levi Woodbury of New Hampshire, an eminent man of the day who succeeded Justice Storey on the Supreme Court of the United States.

In accordance with Iowa laws of the time, several counties became attached to Woodbury as civil townships for judicial purposes. As a result, the county included all of northwest Iowa until 1857, when Cherokee

County was organized separately. Plymouth County followed a year later.

Settlement of the county began in ernest after the winter of 1854-55 when Dr. John Cook's party laid out Sioux City. In large measure, Sioux City owes its birth to the shortsighted policy of the proprietors of the lands upon which Sergeant's Bluff (see No. 120) and Floyd's Bluff were located. Sergeant's Bluff was conceded to be the area's most desirable and attractive location, hence efforts were made by its residents to concentrate all business matters there. These efforts failed because Dr. Crockwell, T. E. Clark and others were so sure of success that they neglected to see the necessity of unified action. This failure led others to start a rival town, Sioux City, which, after securing location of the government land office, began to speedily outdistance its competitors.

In 1857, another town was platted three miles south of Floyd's Bluff, known as Sergeant's Bluff City (see No. 120); it was located in the same one-quarter section as another plat named Sergeant's Bluff. On April 2, 1855, a vote was taken to determine whether the county seat should be moved from Floyd's Bluff to Sergeant's Bluff. All 24 votes were cast in favor of removal.

During March of 1856, the county judge received a petition for movement of the county seat to Sioux City. At the same time, T. E. Clark, J. D. M. Crockwell, and others directly interested in the success of Sergeant's Bluff placed another petition requesting the maintenance of the county seat in its present location. As required by law, an election was held on the matter the following month, and of the 116 polled, 71 favored removal to Sioux City while 45 were opposed.

Throughout the early years of settlement the Indians were only mildly throublesome, sometimes ordering the citizens to leave the county. Parties of Yankton Sioux passed through the area with war paint on their faces, but only rarely was any blood shed. However, during 1858, 59 and 60 the Santee Sioux Indians became rather hostile towards the settlers of the northwest, making frequent raids, stealing stock and, on numerous occasions, murdering some unfortunate resident. So alarming were these acts, that, in the spring of 1861, it was thought necessary to use military force to bring an end to the uprising. Accordingly, a company of "home guards" was formed.

94. The Council Oak

Though gone now, the Council Oak may have stood for about a thousand years near the mouth of the Big Sioux River. There are legends to the effect that Indians assembled to hold their councils of war in the shade of its branches. While members of Lewis and Clarks' party buried Sergeant Floyd on the high bluff six miles downriver (see No. 114), Indians, alarmed by this intrusion, reportedly gathered near the tree for discussion. In 1849 Theophile Bruguier (see No. 95) and his father-in-law, War Eagle (see No. 96), settled on the lands in this area. Here it was supposed that Smutty Bear held the last council of war in 1854, when Dr. John Cook arrived to survey the region. Doubt was cast on these tales in 1930 by Mrs. Julia Conger, a daughter of Bruguier, who asserted that a council of war had never been held there by the Indians.

As a result of its advanced age, the Council Oak began to die around 1950. Many attempts were made to save the life of this landmark.

Its trunk was filled with cement and other preservatives in an effort to halt the decay, whereupon several new branches appeared in the spring of the year. Unfortunately, in 1955 the tree was struck and killed by lightening.

On June 3, 1971, the tree's remains were uprooted and deposited in the Big Sioux. A group of citizens preserved parts of the Council Oak for the museum, and placed a stone marker to indicate its former location.

95. Bruguier's Cabin

Theophile Bruguier (also Brughier) was born August 31, 1813, in the parish of L' Assumpcion on the St. Lawrence River, a short distance below Montreal. Making his way down the Mississippi to St. Louis, Bruguier went to work for the American Fur Company. While in its employ as a trapper, he traveled up the Missouri to Fort Pierre in the Dakota Territory, leaving the company several years later to live with the Indians.

Subsequently, a celebration was held to honor the great spirits who lived in the Black Hills, with Indians coming from many miles around to take part in the ceremony. Bruguier attended in hopes of seeing the great chief War Eagle (see No. 96) whom he had met once before at Fort Pierre.

As the warriors sat around the campfire, Bruguier found that he was seated next to War Eagle. He told the chief of a dream he once had about a beautiful spot where two rivers joined their waters, where high hills were covered with lush grass and the valley thick with timber. War Eagle

said that he knew of such a place and would someday guide Bruguier to it. When War Eagle was about to leave the camp, Bruguier asked if he could travel with him.

They journeyed far and a warm friendship developed between them. After hearing of the troubles Bruguier experienced as a young man, War Eagle wanted to do something to raise his spirits. Feeling that the greatest gift he could give would be one of his daughters, the chief offered his eldest, Iron Shaker, to Bruguier.

Following their marriage, Bruguier and the tribe went to the great red pipestone quarry in Minnesota. Here a young Assinaboine chief stole Iron Shaker. Although Bruguier regained her for a time, she was later recaptured from the Sioux village at Kettle Lakes.

Soon after returning to Dakota, War Eagle offered Bruguier his remaining daughters, Blazing Cloud and Dawn. They traveled the upper Missouri until the spring of 1849 when War Eagle led them to the spot of Bruguier's dream. Stopping near the mouth of the Big Sioux, they built a cabin and began to farm. Fur trading also took place here, with Bruguier sending expeditions up the Missouri as late as 1860.

In May, 1857, Blazing Cloud died and was buried beside her father, who had died at Bruguier's cabin in 1851, on the point of the bluff overlooking the mouth of the Big Sioux. Two years later, smallpox struck the household, resulting in the deaths of Dawn and two of her children. They too were laid to rest near the grave of War Eagle.

After living at this site for thirty years, Bruguier moved to a farm near Salix, Iowa, where he spent his last years. He died February 18,

1895, and was buried in a Salix cemetery. Thirty years later, as a result of efforts by the Woodbury County Pioneer Club, permission was granted to remove his body to War Eagle Park, high above the location of his first cabin. On September 22, 1926, with due honor and ceremony, Bruguier was interred beside War Eagle, his Indian wives and their children.

When the Gordon Drive-In Theater and the highway were being constructed, it became necessary to tear down several houses. In the process the original cabin of Theophile Bruguier was discovered intact beneath the siding of one of these houses. It was purchased by the city and carefully dismantled, each board numbered to aid in restoration.

Reconstructed on the banks of the Big Sioux, it sets close to where the Council Oak (see No. 94) stood. Bruguier's cabin differed from most in that both sides of the logs were smoothed, a difficult operation as all the work was done by hand. The Girls of '68, an organization of women who had ancestors living in Sioux City on or before 1868, now uses the cabin as a clubhouse.

96. Chief War Eagle's Grave

War Eagle (the English translation of the Sioux name, Wah-me-de-wah-kee, also written in places as Hu-yau-e-ka) was a member of the Isanti family who originally lived on the Mississippi below St. Paul. As a young man he met and became friends with many white men, leading to his working as a steamboat pilot on the Mississippi River in 1830. After marrying, War Eagle moved to the lands of the upper Missouri River where he was

adopted by the Yankton Sioux tribe and later made their chief. President Van Buren bestowed a medal upon the chief in 1837, recognizing his friendly attitude toward the white settlers.

Descending the Missouri with his son-in-law, Theophile Bruguier (see No. 95), War Eagle settled near the mouth of the Big Sioux River in the spring of 1849. When his tribe camped at this location during the winter, reportedly as many as fifteen hundred tepees occupied the river banks.

In 1851 War Eagle died of pneumonia at the age of sixty-one and was buried on the bluff overlooking both rivers. He was supposedly laid to rest in a sitting position on his favorite horse with his eyes just above the surface of the ground commanding a view of the Dakota lowlands and the Vermillion plateau thirty miles to the north. As late as 1859 there was a covering of brush over War Eagle's head, which was said to still be in place. Other members of his family lie buried near him.

Excavation conducted in 1922, when the original monument to his memory was erected, showed the chief's body to be in a reclining position. It is believed to have been Bruguier who insisted on War Eagle's burial according to the white man's custom. Vandalism of the first monument led to construction of a replacement in 1975.

97 and 98. Covington and Stanton

In 1856 Harney City was laid out just west of the present site of South Sioux City (see No. 100), but never developed beyond the planning stage. Newport, platted on the identical spot in 1857, was later renamed

Covington, and incorporated as such in 1870. That year Stanton was surveyed between Covington and the bend of the river. At the height of its prosperity, Stanton consisted of thirty-one buildings, thirteen of which were saloons. This, and Covington's similar make-up, helped the two towns earn their notorious reputations during the sixties.

The State of Iowa had gone "dry" following the murder of Rev. George Haddock in Sioux City, on August 3, 1866. Resulting pressure on the "lawless" section of Sioux City encouraged many businesses to move across the river to Covington. These additional saloons, dives and gambling houses put Covington and Stanton in a class with Dodge City and Tombstone.

One establishment built out over the river, the Pea Green, had a trap door for conveniently disposing of the bodies of individuals who had been robbed and murdered during the course of an evening. An uncounted number of bodies were said to have been pulled from the river near Dakota City, a few miles downstream.

By 1895, Covington and Stanton had all but disappeared because of fire and the continuous cutting of the river.

99. Pacific City

The first white settler in Dakota County, believed to have been a Frenchman named Gustave Pecaut, built a log house near the Missouri in 1854. G. W. Sherman came to the same area two years later and surveyed the townsite of Pacific City, which, like other towns, was hampered in its development by unfavorable river conditions. In 1857 the town

contained about ten buildings, but frequent cutting and flooding eventually drove Pacific City's inhabitants to other locations.

100. South Sioux City

Originally platted in 1857, South Sioux City was incorporated to include the Pacific City and Stanton areas (see Nos. 99 and 98) in 1887, with Covington added in 1893 (see No. 97).

Transportation between Nebraska and Iowa began in 1855 with the launching of John Feenan's crude passenger boat. The situation was improved with better ferries, a railroad bridge in 1888 (see No. 113), a pontoon bridge one year later (see No. 111), and the Combination Bridge completed in 1895 (see No. 104). A horsecar track, built in the same year as South Sioux City's incorporation and running from the depot on the far side of town, north to the ferry landing, was established as an intraurban line in 1904 when expanded across the Combination Bridge by Talbot and Foy. This line was later extended to Dakota City (see No. 119), but discontinued in 1918.

During the early years of South Sioux City, Covington, etc., the Missouri River flowed through McCook, Crystal and Silver Lakes, forming a bend at Prospect Hill in Sioux City. Its course then ran parallel to the Sioux River past where the Combination Bridge now sits. On the bend of Crystal Lake, a prosperous business of selling wood to steamboats was established. A story is told about a group of citizens who, wishing to prevent further success of the business, dynamited the bend to change the course of the river. Thus, the land from the high bank near Interstate-29,

to just west of the bridge over Crystal Lake, and bordered by the lake on the south, became known as the "Island."

101. Military Road

Military Road, used for the transportation of troops and supplies between Sioux City and Fort Randall, originated as an irregular trail in 1856. Traffic on the road significantly increased three years later when the area opened to settlement, and by 1862, mail deliveries occurred three times a week. On March 3, 1865, Congress authorized the construction of the Sioux City-Fort Randall route, for which $10,000 was appropriated. This grant, and those that succeeded it, provided for the straightening and shortening of the route, surface improvement and the completion of a bridge across the Vermillion River in 1867. During later years, Military Road was sometimes referred to as the Government Road.

102. Sioux City

In the summer of 1848, a lone pioneer, William Thompson, traveled from the State of Illinois into this portion of Iowa, which was then nothing but a wilderness. Subsequently, Thompson was joined by his brother Charles and another man. These men located the first actual settlement at the foot of Floyd's Bluff, and spent the ensuing winter there (see No. 113).

The following spring (May of 1849), Theophile Bruguier (see No. 95), a Canadian of French descent, settled at the mouth of the Big Sioux River,

about two miles above Sioux City. Upon leaving the employ of the American Fur Company and joining the Yankton Sioux Indians near Ft. Pierre, he married the daughters of the celebrated chieftian, War Eagle (see No. 96).

In the fall of 1849, Mr. Robert Perry, a man known for both his fine education and rather eccentric habits, moved from Washington, D.C. to settle on the creek that now bears his name. He resided there for two years before moving elsewhere.

About 100 trappers and explorers left St. Louis on the steamboat Antelope for the upper Missouri, where they were engaged by the American Fur Company. After arriving at the headwaters, where they took part in hunting, trapping, and trading with the Indians, some of the men decided to return to more civilized surroundings. These included a group of Frenchmen who chose to locate in or near what is now Sioux City. One of the men, Joseph Lionais, purchased Bruguier's cornfield for $1,000 in 1852. Indian troubles in the vicinity of Fort Vermillion (see No. 63), influenced other Frenchmen to descent the river in small numbers, some settling in the area.

Little or no improvements were made at this time, nor did any additional settlers come until the spring of 1854. At that time Dr. John K. Cook, possessing a governmental contract for surveying in the northwestern part of Iowa, arrived with his party. Having faith in the eligibility of the area for a town site, Cook and several of those accompanying him, claimed land here. Cook was an agent for, and a member

of, the townsite company of Henn, Williams and Cook. Henn, who was in Congress, was able to enlist the aid of Iowa's U. S. Senators in getting the government land office established in Sioux City in December of 1854. Due to the mildness of the winter, work progressed rapidly and the town was completely laid out by January 9, 1855.

In the spring of 1855, there were but two log cabins where Sioux City now stands. A post office was established in July, but the land office, authorized the previous December, was not open for business until October. Dr. Cook and a number of men from the East organized themselves into the Sioux City Company for the purpose of developing the town. By Christmas, 1855, the town consisted of seven log houses.

Growth was impeded by lack of lumber, other than logs. In spite of this, the town numbered 150 people by the spring of 1856 when the County seat was moved from Sergeant's Bluff (see No. 120) to Sioux City. The first steamboat bound for Sioux City, the Omaha, arrived in June of 1856, bringing provisions and ready-framed houses. Construction began early in July on a steam saw mill located at the mouth of Perry Creek, which helped satisfy the town's need for timber. At that time, a survey was begun of the Dubuque and Pacific Railway, from Sioux City eastward, in accordance with an act of Congress approved May 20th. During 1856, fifteen steamboats landed at Sioux City. The settlers and supplies they brought allowed the population to rise to 400 and the number of buildings erected to increase to 90.

Early in 1857, Sioux City, by a special act of the General Assembly, became an incorporated town. Election for city officers was held in in August of that year.

The fur trade of Sioux City was an item of no small commercial importance. In addition to the large number of buffalo robes and skins brought by friendly Indians, immense quantities were transported here by traders in Mackinaws (small boats), with Frost, Todd and Company the heaviest dealers. During one week in June, 1857, the Company received, by steamboat from the headwaters of the Missouri and Yellowstone, furs and skins valuing many thousands of dollars. One consignment alone contained 7,567 tanned buffalo robes, 739 beaver skins, 32 elk skins, 14 bear skins, 1 moose skin, and 35 pelt packages.

The hazards of Missouri River steamboating gave impetus to one of Sioux City's major industries. Following the sinking of a steamer in the area, James E. Booge, who had arrived in 1858 and opened a general store, salvaged some grain from the damaged vessel. After fattening a number of hogs on the grain, he butchered them behind his store and sold the meat house-to-house. This venture proved so successful that he built a frame slaughter house on the bank of Perry Creek, thus establishing Sioux City's meat packing industry.

In 1868 the Sioux City and Pacific Railroad reached town, followed two years later by the Illinois Central. The time now saved in sending cargo by rail to Sioux City, and on upriver by steamboat, made the town a more important river port than either St. Joseph or Omaha. Joab

Lawrence of the Northwestern Transportation Company had begun in 1867 to prepare boats for operation at Sioux City and above. The next year saw five of his steamers based at Sioux City, marking the beginning of serious steamboat activity in the area. This period was to last until the Josephine left the Pearl Street levee in 1907.

Sioux City businessmen, having determined that benefits provided by the railroad would be increased by its extension, organized and financed the successful Dakota Southern to Sioux Falls. Similarly, businessmen in Sioux Falls believed that if the railroad from Sioux City was so important that its businessmen would provide financing, then a road from Sioux Falls to Yankton would be as good an investment for them. The two lines came together on February 3, 1873, following which, Yankton rapidly replaced Sioux City as the head of navigation.

During 1888, Sioux City got its first railroad crossing of the Missouri, the Union Railroad Bridge (see No. 113). A great legal war started as soon as it was opened to traffic when the Chicago and Northwestern and the Chicago, St. Paul, Minneapolis and Omaha railroads resisted enforcement of the equal-use clause in their charter and barricaded the bridge approaches to all trains but their own. The issue was finally taken to court where it was decided that the bridge must be open to all lines. Litigation and quarrelling had taken so long that the same men who had staked their fortunes to the Union Bridge promoted and built the Combination Bridge (see No. 104) to accommodate all types of traffic.

During the span between the controversies over the Union Bridge and completion of the Combination Bridge, another group of businessmen were, as early as December, 1888, planning a pontoon bridge across the Missouri (see No. 111). On May 18, 1889, the bridge was opened to traffic. Proving to be unpopular, most people chose to use the ferry until the opening of the Combination Bridge in 1896.

Over the years Sioux City has been ravaged on numerous occasions by Missouri River floods, the last occurring in 1952. Implementation of the Federal Pick-Sloan Plan has greatly reduced this threat.

The city is still very much involved with the river, as evidenced by the increase in barge traffic in recent years, completion of a second Missouri River bridge (see No. 117) and the current construction of a Combination Bridge replacement.

103. Turner Octagon House

In 1880, Peter H. Turner, a bookkeeper in Sioux City, built an octagonal house atop Prospect Hill. This location and the additional windows allowed for by the shape of the house, provided a spectacular view of Sioux City, the Missouri River and the surrounding area. The house still stands at 108 Kansas Street.

104. Combination Bridge

More than just a passage across the Missouri River, the Combination Bridge is a symbol for an age. The ups and downs of its construction reflected the prevailing business climate in Sioux City during the latter portion of the 19th Century. Population had grown 510% between 1880 and

1890. Minneapolis, St. Paul, Kansas City and Omaha, whose growth was considered phenomenal, had an average growth of 240% in those same years.

The early 1890's saw Sioux City in the midst of a major boom. News stories about the city were carried by the national press. Advertisements for agricultural, residential and business lots, brought special excursions of investors and financial adventurers, and subsequent purchases of land and industrial and business investments of all kinds. Townsites and additions were planned over night, followed by the construction of mansions, business and commercial buildings, and "skyscrapers", covering quarter blocks. New enterprises were started every day, and no one was surprised when local men used their funds to build an elevated railway, a cable line or a Peavey Grand Opera House.

The time was right for an adventurer such as Mr. Donald McLean to appear on the Sioux City scene. In about 1888 he arrived in town, possessing no special financial means, but having the unusual ability to acquire the use of other people's money. He impressed people with his extravagance as typified by his order for a $20,000 private railroad car, to run on his dream railroad, the Pacific Short Line, which was to operate between Sioux City and Ogden, Utah.

McLean's road became a nationwide subject of conversation. Stories concerning the acquisition of valuable land rights through rich oil producing and coal mining areas were prevalent. With the financial support of several businessmen, McLean organized a number of paper companies related to the Pacific Short Line. Of these, the prize promotion was the Pacific Short Line Bridge Company, which McLean declared would do all

the business in this region. A capital stock of $12,000,000 was announced by the incorporators who included: McLean; Leverett H. Clarke, a bridge contractor; Craig L. Wright, the attorney for the company; David MacKenzie, a railroad man whom McLean brought to Sioux City; and John Pierce, the driving force behind the company.

A second crossing was necessitated by the litigation concerning the just completed Union Bridge (see No. 113), and its monopoly by one group of railroads. In November, 1889, a party of engineers employed by the Pacific Short Line Bridge Company started work on a complete hydrographical and topographical map of the river one mile above and below the location of the proposed bridge. Through January of 1890, the engineers sank twenty shafts to bedrock, reaching depths between 75 and 130 feet. From these borings an accurate profile of the riverbed was made and the type of material to be used in sinking the piers was determined.

Plans, prepared by the Pacific Short Line Bridge Company and submitted to the War Department for approval, were opposed by the Missouri River Commission because they called for a draw bridge. These were subsequently approved by the Secretary of War with the condition that two draw bridges be included to allow for shifting of the channel. The resulting plans called for two fixed spans, each 500 feet in length; two draw spans, each 470 feet in length; an approach on the Iowa side, 90 feet in length and an approach on the Nebraska side, 70 feet in length. Inside the trusses, there was to be a railroad track flanked on each side by a footwalk, while outside two roadways on cantilever brackets were proposed. Fifty-six feet wide, the bridge would be supported by nine piers numbered consecutively from the Iowa side.

Work on the bridge, under McLean's direction, began in August, 1890, shortly after contracts with Sooysmith and Company and the Phoenix Bridge Company had been signed. That fall the caisson for pier three was built and sunk to a depth of 32 feet. Considerable timber was framed for pier four when funds ran out in December and all work stopped.

Following resumption of work in May, 1891, pier three was sunk to bedrock and pier two was almost finished. Again, all available money had been spent. McLean failed and a foreclosure of the mortgage on the Pacific Short Line put a temporary stop to all operations on September 1, 1891. Two Sioux City businessmen, A. S. Garretson and D. T. Hedges advanced McLean $200,000, after which Garretson went to New York to secure bonds to pay McLean's debt of $500,000. The company Garretson was to float the bonds with, the Union Loan and Trust Company, failed before the bonds could be issued. Had the failure of this company been delayed two months, the bonds would have been floated and the bridge finished.

In 1892, Garretson and his business associates secured control of the Pacific Short Line and the bridge, with work resuming in December under the contract agreement with Sooysmith and Company. Because of the determination of this local group, a second Missouri River Bridge Company was organized early in 1893, to which all rights and franchises of the Pacific Short Line Bridge Company were transferred. Later in 1893, this railroad syndicate likewise failed, causing work to halt once more. By that time, some masonry had been laid for pier three and the caissons for piers four and five had been built and sunk--number four to a depth of forty-four feet and number five to a depth of sixty feet. Materials for piers six and seven had been received, but not used.

Most of the funds used in construction of the bridge had been obtained through the Union Loan and Trust Company, which was now defunct. Its creditors, who had invested heavily in Sioux City and viewed the bridge as essential to the town's continued growth, formed the Credits Commutation Company. On May 21, 1893, the directors of the Credits Commutation Company met in Chicago to complete plans to finish the bridge. Mr. John C. Coombs of Boston, retained by the company as general counsel, was largely responsible for developing its plan to save as much as possible from the financial wreck of the Union Loan and Trust Company. A dispute among stockholders developed over the imposition of a 10% assessment, which the directors believed necessary to avert the loss of prior investments. Terminal facilities and related industries in Sioux City depended upon the completion of the bridge. Western stockholders felt that an assessment for this project would lead to future assessments for other enterprises. After considerable debate, a majority of the stockholders voted to authorize the board of directors to levy the assessment if deemed necessary.

Three weeks later, on June 12, 1893, the assessment was made and bridge contracts were signed at the end of a four day conference attended by more than half of the 400 creditors of the Union Loan and Trust Company (these constituted the Credits Commutation Company), representatives of Sioux City, and officials from several major banks.

The Combination Bridge Company was organized in May, 1894, to take up the bridge properties of the Credits Commutation Company. Its president, Mr. John Ellis, was assigned to personally direct the completion of the bridge. At a meeting held in Chicago one year later, Ellis, General Manager

Fred Eaton, and several of the company's more courageous men secured the support of their associates in this venture. The people of Sioux City assisted in the effort by passing a $200,000 bond obligation during the previous spring. Completion, if achieved, would facilitate interstate trade, thus saving the company's allied enterprises, and making the bridge a valuable piece of property.

Through the persistence of local promoters, work resumed in June, 1895. Piers six and seven were sunk during September, and by October, both fixed spans had been erected. The bridge was completed on January 1, 1896, and a banquet, given at the Hotel Mondamin by the Sioux City Commercial Association, celebrated its opening on January 21.

According to specifications, the new bridge included railroad tracks, pedestrian walkways and roadways used by horses and buggies. A high fence was built between the horse lanes and the railroad tracks to prevent the animals from being frightened by passing trains.

Over the years, the bridge has undergone many changes. Prior to 1951, it was operated as a toll bridge. In 1910, trains ceased to use its tracks, giving way to streetcars, which were replaced by buses in the 1950's. Automobiles first used the bridge in the 1920's, traveling the center lane when not in use by the streetcar. The most recent additions to the structure were the outside automobile lanes constructed in 1960.

As it exists today, the bridge consists of two simple span steel trusses 500 feet in length and one steel truss draw span 470 feet long,

all with open grate floor. An identical draw span was removed when I-29 was constructed.

The draw span operates on a circular track situated atop the pivot pier. Forty-five fourteen-inch conical rollers, each two feet in diameter, support a drum, five feet high and thirty feet in diameter, built of heavy plates and angles. While swinging, the entire span, weighing more than 2,000,000 pounds, rests on this drum and its supporting rollers.

A geared pinion connects the circular track on the pivot pier to some gears in the floor of the bridge. Now powered by electric motors, this gearing was originally operated by eight men working two levers. With each man exerting twenty-five pounds of force, the bridge could be opened in about ten minutes, the same time required to do the job electrically.

Recently the stress of more than 80 years of service has begun to take its toll on the Combination Bridge and malfunctions of the draw span have caused traffic tie-ups. Nonetheless, the bridge is still regarded as an engineering and financial wonder of its age and remains a tribute to the far-sightedness of builders who realized the value that transit connections would provide the entire region.

Plans now call for the 1980 completion of a Combination Bridge replacement, consisting of a steel-tied arch main span with continuous steel welded girder approaches. Its concrete floor and reinforced concrete substructure are to be supported on steel piles driven to

bedrock. The 425-foot main span will provide a horizontal navigational opening of 400 feet with up to 47 feet of vertical clearance. The bridge will carry four lanes of traffic on 63 feet of roadway with an additional eight-foot walkway for pedestrians and bicycles.

105. Steamboat Benton (No. 2)

This boat, first wrecked on September 15, 1889, when it hit a snag about five miles above Washington, Missouri, was raised, repaired and re-entered in the lower river trade. She sank again on July 31, 1895, opposite Arrowrock, Missouri, when the tiller rope broke and the unmanageable boat struck another snag. The Benton was again raised and repaired, and entered in upper Missouri trade during the spring of 1897. While headed downriver on July 18 of that year, she signaled for the Combination Bridge drawspan to open. The bridge attendants, failing to open it, forced the boat to back off to prevent a collision with the structure. In backing off, the Benton hit some submerged piling, knocking a hole in her hull. Soon she was filled with water and all control was lost. As a result, the current carried her into a pivot pier and drawspan where her upper works were knocked down. The 394-ton boat, valued at $8,000, and owned by James P. Boland and T. B. Sims, was a complete loss.

106. Steamboat Mary Bennett

This steamer was caught in the ice at Sioux City in 1869.

107. Steamboat Peninah

The Peninah sank amid the ice floes at Sioux City on April 6, 1875. She was later raised and badly shattered at Yankton in the flood of 1881.

108. Ferryboat Hiram Wood (No. 2)

This side-wheel ferryboat, carrying cogwheel machinery, sank in 1880 at Sioux City. The machinery was salvaged and subsequently placed on the Andrew S. Bennett.

109. Ferryboat Andrew S. Bennett

Built at Sioux City by Captain Grant Marsh, this stern-wheel ferryboat was named after Captain Andrew S. Bennett of the Fifth Infantry who had been killed in action by Indians. The boat sank at Sioux City when struck by ice floes.

110. Steamboat Vint Stillings

This sternwheeler was yet another victim of the ice at Sioux City.

111. Sioux City Pontoon Bridge

As a result of the controversy concerning the Union Railroad Bridge (see No. 113), a group of local businessmen began planning the construction of a pontoon bridge across the Missouri, capable of carrying pedestrians, wagons and trains. In February, 1889, E. C. Palmer and J. M. Moan went to Chicago to purchase building materials. Things proceeded rapidly, and on May 18, 1889, the first passenger bridge between Sioux City and South Sioux City was opened for traffic.

At the time of its completion it was heralded as the longest bridge of this type in the world. It was built over 185 boats anchored to the riverbed by huge blocks of granite. The northern half of the bridge was hinged at the Iowa side, so it could be swung downriver to allow for the passage of boats. Bridge popularity was never very high and most people continued to use ferries until the Combination Bridge (see No. 104) was opened in 1896. The new structure made the pontoon bridge obsolete and sometime thereafter it was removed from the river.

112. Lewis and Clark, August 20, 1804

113. The Union Railroad Bridge

Iowans and Nebraskans in the Sioux City area no longer had to depend on ferryboats or the winter ice to cross the river after 1888. In that year the first railroad crossing of the Missouri, north of Omaha, was completed at Sioux City. Plans for the Union Railroad Bridge (in places called the Omaha Railway Bridge) had begun in 1872 when Judge A. W. Hubbard, northwest Iowa's first congressman, organized the Sioux City Bridge Company. Through his influence, Congress passed an act in 1874 authorizing its construction.

It wasn't until 1886 that the Chicago and Northwestern and the Chicago, St. Paul, Minneapolis and Omaha railroads petitioned Congress for a bridge charter. Work began the following year and was concluded in December, 1888.

Shortly after the bridge was opened to traffic, the constructing lines resisted enforcement of the charter's Equal-Use Clause and barricaded the bridge approaches to all but their own trains. The Sioux City, O'Neill and

Western Railroad eventually broke the barricade, but could not cross because the bridge had been blocked with rails and ties. After bringing the issue to court, it was decided that the structure must be open to all lines. The time spent quarreling and in litigation was enough for the men who originally promoted the railroad bridge to plan and erect the Combination Bridge (see No. 104), which was capable of carrying all types of traffic.

Eight spans, four each of 400 feet and 50 feet, comprise the bridge. The two larger spans on the Iowa side were built of imported Scotch steel which was considered more uniform, but not so perfect in workmanship, as the American steel in the remaining large spans. In fashioning the substructure, caissons were sunk to depths of up to 99 feet below high water, with each able to withstand a maximum load of 8,974 tons. Total length of the bridge and its approaches is approximately four miles.

114. The Floyd Monument

Three months after beginning its journey, the Lewis and Clark Expedition suffered what was to be its sole casualty. The group camped from August 13-19, 1804, near the Maha village of Tonwontonga (see Nos. 127 and 130), where they were entertained by the Indians. During the night of the 19th, Sergeant Charles Floyd became ill with what was termed "a bilious colic" and died the following morning. Members of the party took his body to the first high bluff on the Iowa side of the river and buried it with military honors. Floyd was probably the first U.S. soldier to be buried west of the Mississippi River.

For the next half century, the grave was visited by Americans and foreigners journeying through the region, despite the fact there was little care provided the burial site. This led Maximillian, a famous old-world traveler, to note in 1833 "that only a short stick marks the place where he is laid, and has often been renewed by travelers when the fires of the prairie have destroyed it."

On April, 1857, Mr. M. L. Jones of Smithland, who passed Floyd's grave on his frequent trips to Sioux City, noticed that the post marking the grave was gone. He then crawled to the edge of the bluff for a closer inspection and discovered that the flooding Missouri had eroded the bluff and exposed Floyd's bones, causing some of them to fall into the river below. Jones sent word to the village of what had happened. A group of men went to the bluff and, suspended by ropes, recovered the bones and reburied them about 600 feet east of their original location.

This burial on May 28, 1857, was the first great patriotic event in the history of Sioux City and practically everyone attended. Floyd's casket, draped with an American flag, was carried by eight men, representing seven states: Ohio, Virginia, Kentucky, Missouri, Indiana, New York and Iowa. The Reverend Thomas Chestnut conducted the service. At that time there was some talk concerning a permanent monument, but nothing materialized.

The major reasons for this lack of action were the full-time demands placed on the people by the rapid growth of transportation, business and "settling the area." These demands became so pressing that the site of the grave was lost. Prairie fires, a well as the trampling of cattle, buffalo and wild horses had eliminated all identification of the grave.

One of the first suggestions to generate some real interest in planning for a monument, came in a letter to the Sioux City Journal, on July 11, 1892, from a Nebraskan, Mr. M. M. Warner. Three years later, a group of men headed by John Charles decided that the grave should be located and marked permanently. Several men went to the bluff and, with trowels and shovels, removed some of the soil where Mr. Charles, who had been at the re-interment of Floyd in 1857, believed the grave was. They found the outline of the grave and exhumed the bones. The men inscribed the skull of Floyd with a brief story of what they did and reburied his remains. A heavy marble slab, set atop the grave at this time, covered it until replaced by the present monument in 1900. Floyd's funeral service was led again, as it was in 1857, by Dr. Chestnut.

After the 1895 funeral, a Floyd Monument Association was organized, and plans for a monument were made. The original plan called for a fifty or seventy-five foot monument in the shape of an obelisk. Feeling that an imposing monument was desirable, several people pressed for adoption of the taller structure. Their judgment prevailed and the current monument was planned.

Resident Army Engineer, Colonel H. M. Chittenden, was commissioned under instruction from the War Department to lay the foundation. He accepted the assignment with the condition that he could have 100 "capable" men to do the work. If the foundation were to harden into a solid piece, free of cracks or openings, it had to be laid in one day. So, early on the morning of May 29, 1900, a special Sioux City and Pacific train took the Colonel, his assistants and 100 men to the base of the bluff. Eleven vats

of water (500 gallons each) were used for the cement. Surrounding the bluff were piles of crushed rock, sand, and many wheelbarrows, shovels and other tools. Work began promptly at 7:30. The foundation they laid is a concrete underground monolith containing 143 cubic yards of cement and steel, and weighing 200 tons. It is 22 feet square at the base, 13 feet, 6 inches at the top and 11 feet deep. A base of stone, two feet deep and nearly 11 feet square at the top, caps the foundation. Ten hours after beginning this task, the work was finished and everyone returned to Sioux City.

The foundation was allowed to harden all summer before construction of the monument started. It was completed in the spring of 1901 and dedicated on May 30, a year and a day after laying the foundation. Public buildings and most homes flew the American flag that day and business places were liberally decorated with flags and bunting. Free transportation to the monument was provided by the Sioux City and Pacific Railway, which was loaded with passengers when it left the Northwestern station at 10:30 a.m. Upon arriving at the monument, the bluff was crowded with people, many already climbing the concrete slope of the monument's face to look at the two inscribed tablets. Reportedly, more than 4,000 people attended the dedication.

Among the many interesting mathematical discoveries of the ancient Egyptians was the "perfect proportional formula" which they used in constructing their obelisks. (An obelisk is a truncated pyramid, topped by a smaller pyramid of "correct dimension." The Floyd Monument is an obelisk, the proportions of which conform to the formula discovered by the

Egyptians. It is 100 feet, 2½ inches high above the base, with an area of 9.42 square feet at the base, tapering to 8.28 square feet at the top, and capped by a pyramid 8.28 feet square at the bottom and nine feet high. The monument is approximately one-fifth the size of the Washington Monument in Washington, D.C.

Funds for the construction of the monument were provided jointly by the federal, state and city governments. Congress and the Iowa Legislature appropriated $5,000 each and the City of Sioux City raised $10,000 by popular subscription.

The Floyd Monument is the first registered historic landmark in the United States. When so designated by the National Park Service of the United States Department of the Interior, in 1960, under the provisions of the Historic Sites Act of 1935, it was declared that "This site possesses exceptional value in commemorating and illustrating the History of the United States of America."

115. Thompsontown or Floyd's Bluff

Thompsontown, one of the first settlements in Woodbury County, was laid out near Sergeant Floyd's Bluff by William Thompson in 1848, who for some years had had a cabin there. At the outset, it appeared to show promise as a town site, receiving designation as the county seat in 1853, but the anticipated great immigration of settlers never occurred. For some years, Thompsontown continued only as an Indian trading post, as the steepness of the grade prevented extensive building and precluded the location of a steamboat landing. All traces of the original townsite have since been washed away by the river.

116. First Bride's Grave

Sioux City's first bride, Roselie Menard, born in 1838, and later married to Louis Menard, died at Sioux City in 1865. A small memorial, erected in 1939 by the Pioneer Club, marks the gravesite located on a bluff just south of Floyd Monument and east of U.S. Highway 75.

117. Sergeant Floyd Memorial Bridge

Recognizing the need for a second Missouri River bridge connecting Sioux City and South Sioux City, local officials set out in 1964 to make state and federal officials aware of that need and persuade them to assist in construction.

The result of this effort was completion of the Sergeant Floyd Memorial Bridge in 1976 at a cost of nearly $17 million. It is a continuous, composite, welded steel girder structure with a concrete floor atop a reinforced concrete substructure with main piers supported on steel piles driven to bedrock. The main span of 450 feet provides a horizontal navigational opening of 400 feet and about 57 feet of vertical opening at ordinary flow during the navigation season.

Efforts to name the bridge in honor of Sergeant Floyd were led by the Lewis and Clark Historical Association.

118. Logan

The town of Logan, located on the south bank of that portion of the Missouri River which is now Crystal Lake, was founded in the spring of 1856. Within two years it reached its height of prosperity, becoming a rival of Omadi (see No. 125). Inhabitants were forced to move to farms or Dakota City when the Missouri began cutting away the northern part of the town, resulting in Logan's complete desertion by 1860.

119. Dakota City

Dakota City, named for the Dacotah (Sioux) tribe, having been designated as the county seat soon after the county's establishment in 1855, filed its plat on September 20, 1856, and was incorporated on April 5, 1858. The two-mile-long town was platted from east to west, its eastern end abutting the Missouri River. "Broadway," Dakota City's main street, was laid out 150 feet wide, with the idea of building a canal from the street to the steamboat landing so barges could come directly into town. From this landing J. D. M. Crockwell operated the area's first ferry.

In 1858, the Dakota City Pottery Works, the only facility of this type then operating in the Nebraska Territory, was established in the east end of town near the river. From this location, its products were shipped to various points along the Missouri.

Dakota City prospered, and in 1871 was able to build a courthouse. By 1876 the Covington, Columbus and Black Hills, first railroad in the county, reached town. (This road was subsequently acquired by the Chicago, St. Paul, Minneapolis and Omaha line.)

Because it was not uncommon to lose an entire farm to the river in one day during the spring rise, farmers often moved their houses to the relative safety of Dakota City, even though a full one-third of the town was washed away in the early 1900's. These farmers and other residents of the area, formed a district in 1912 for the purpose of stopping bank erosion. The district, unsuccessful in its own attempts, hired the Woods Construction Company to dig drainage ditches in order to make the land

betweem Dakota City and Jackson available for farming. This area, previously known as "The Swamp" or "The Three Rivers," was the overflow or drainage route of Omaha, Elk and Pigeon creeks, at which point the water would back up for five or six miles.

120. Sergeant's Bluff and Sergeant's Bluff City

In 1857 the town of Sergeant's Bluff City was platted approximately three miles south of Floyd's Bluff (see No. 115). It was located in the same quarter section with another town called Sergeant's Bluff, both having been named in honor of Sergeant Charles Floyd. The county seat was moved to Sergeant's Bluff from Floyd's Bluff in April of 1855, but it held this distinction for only a year before the seat of government was moved to Sioux City.

121. Steamboat Nugget

Valued at $20,000, the Nugget sank on April 22, 1866, abreast of Dakota City, Nebraska, while involved in mountain trade. On January 1, 1871, five Dakota County residents discovered the wreck on a sandbar two miles upriver from the mouth of Omaha Creek. A company was formed and considerable property was salvaged, such as flour, meat, whiskey, spades, shovels, and other tools.

122. Steamboat Bridgeport

On June 2, 1868, this 250-ton stern-wheel steamboat struck a snag and sank about 1½ miles below Dakota City, Nebraska. The boat and cargo were a total loss.

123. Weedland

The settlement of Weedland was located several miles west of Brower's Lake in Liberty Township. It was in existence as late as 1890 when it had approximately 350 residents.

124. Conway Site (25DK6)

Located two and one half miles north of Homer, this site was surveyed by the University of Nebraska in 1940. Notable here are several house depressions and Nebraska Phase artifacts.

125. Omadi

Omadi, located five miles south of Dakota City (see No. 119), was laid out by George T. Woods, Chauncey A. Horr and Moses Kreps in 1855. It supposedly received its name from a young Indian who, having contracted smallpox, stood on the river bank crying, "Oh, me die!"

Settlers began arriving in 1856, with the town eventually reaching a population of about 400. The first school was built in 1857, but had to be moved to a site about two miles south of Homer when the Missouri River began cutting away at the bank near which it was located. When the Burlington began construction, the school was found to be on railroad property, resulting in a second move.

By 1862, the Missouri had washed away half of the town and by 1865 every house had been moved either to farms or to Dakota City.

126. Nelson Site (25DK7)

This site, discovered in 1940 by the State Historical Society at a location one mile north of Homer, contains artifacts from the Woodland tradition.

127. Homer Site - Tonwontonga (25DK5)

Located on the eastern edge of Homer, this site is referred to as the Omaha Big Village. Enrolled on the National Register, it may have been occupied at least five times. The first occupation is believed to have begun about 1775 and the last desertion around 1845.

128. Ryan Site (25DK2)

A series of Woodland burial mounds make up the Ryan Site. Located on the bluffs just south and east of Homer, these mounds were used at a later date by the Omaha Indians as a grave site.

129. Site 25DK18

Reportedly the location of a Winnebago Indian Trading Post, this site is located about two and one-half miles east and one-half mile south of Homer.

130. Lewis and Clark, August 13-19, 1804

131. Lewis and Clark, September 4, 1806

132. Steamboat Eclipse

Owned by S. G. Baker, this steamboat was engaged in Fort Benton trade when it sank September 3, 1887, about fifteen miles below Sioux City.

133. Site 25DK14

A 1941 survey by the State Historical Society unearthed St. Helena Phase artifacts at this site south of Homer.

134. Fort Charles

Fort Charles, built by the Spanish in the late 1700's, was located about twelve miles south of the present site of Dakota City, or three miles east of Homer. The Spanish Governor at St. Louis ordered construction of the fort and trading post in response to British movement down the Missouri River from Canada.

James MacKay, a native of Scotland chosen as manager of the Missouri Company's affairs in this stretch of the river, and thirty-three other men left St. Louis at the end of August, 1795. They were to open trade with the Omaha Indians and erect the fort and trading post near their village.

On November 11, 1795, the group arrived at Chief Blackbird's village and immediately began work on the fort which they named after King Charles of Spain. Although the exact site of the fort's location is not known, it is believed to be near the present Blyburg Lake south of Dakota City.

135. Bobier Site (25DK1)

Located about four and one-half miles southeast of Homer, this earthlodge site is approximately the same age as the site unearthed near St. Helena (see No. 22) believed to have been occupied ca. 1400 - 1450 A.D. Besides being a component of the St. Helena Phase of the Central Plains Tradition, it also contains a Woodland occupation.

136. New Buffalo

New Buffalo was a moveable post office which operated between 1856 and 1878 in the vicinity of present-day Salix.

137. Steamboat Gus Linn

The Gus Linn, owned by Captain W. Beasley, sank at the Henry Chattillon Bend in 1865.

138. Brown's Settlement

This tiny community, used by stagecoach drivers on the Council Bluffs' road to water their horses, existed during the 1850's and 60's in Section 2 of Lakeport Township. Its hotel and stable were operated in 1855 by a proprietor named Benner.

139. Thurston County, Nebraska

Prior to 1854, the Omaha Indians lived on both sides of the Missouri, from the mouth of the Platte River in the south to the Little Bow Creek in the north, and extending west to the Elkhorn River and Shell Creek. Under the Kansas-Nebraska Act of 1854, the Nebraska Territory, encompassing most of the Omaha lands, was organized. That year, the Omahas ceded to the government their holdings in eastern Nebraska.

Initially placed on a reservation along the Aoway (Aowa) Creek, the Omahas asked to be moved when repeated Sioux attacks made life intolerable. (The Sioux and Omaha were long time enemies.) They were removed in 1855 to a 301,000 acre tract fronting on the Missouri River in Blackbird County (now Thurston County). Though much of this land was hilly and unsuitable for farming, the Omaha raised fairly good crops in the river bottoms and with assistance from the government, managed to get along. Their condition looked good to the Winnebagoes, who began to "visit" the Omaha in increasing numbers during the fall of 1863.

Originally located in northern Illinois and Wisconsin, the Winnebagoes ceded their land to the government in return for a reservation above the Iowa River. Subsequent moves brought them to the Crow Creek Reservation in South Dakota. Starvation and drouth forced the southern migration to the Omaha Reservation. Their presence posed a serious problem, leading Indian agent Robert W. Furnas, with consent of the Omaha, to attempt to assist the destitute Winnebagoes. In 1865, Furnas took a delegation of Omaha chiefs to Washington where they agreed to cede 97,000 acres of their reservation to the Winnebagoes, who, nine years later, purchased an additional 12,800 acres. The Omaha-Winnebago Reservation still remains, although most of the land has since been allocated to individual members of the tribes.

Shortly after formation of the Nebraska Territory, the lands presently comprising Thurston County were organized as Blackbird County (named for the famous Omaha chief, see No. 169). In December of 1854 the first election for territorial representation was held. Joined with Burt County for electoral purposes, Blackbird was entitled to one councilman and two representatives. Subsequently administered as the Reservation, it was, by 1879, partitioned among Burt, Cuming and Dakota counties for election, judicial and revenue purposes. It operated as such until 1889 when Thurston County was organized, with Pender as its county seat.

140. Whitetail Site (25TS3)

A Nebraska earthlodge village, it was discovered at a point about three miles east and two and one-half miles north of Winnebago.

141. Sioux-Winnebago Battle Site

During their last war trip into this region, the Sioux met the Winnebago in battle where the bluffs protrude into the bottom land, just north of Big Bear Hollow (see No. 142).

142. Big Bear Hollow and Settlement

Big Bear Settlement was a Winnebago Indian village located in the valley of Big Bear Creek near the spot where it meets the Missouri River bottom lands. This area was named in honor of Big Bear, a famous chief who headed the group that lived there. In the 1860's, the residents of Big Bear Settlement acquired money through the sale of wood to be used in powering the steamboats that passed nearby.

143. The Glover Mill

William and Benjamin Glover followed in the steps of John Nairn (see No. 145) in setting up a saw mill in this area. The Glover Mill was established in 1882 about one mile west and three miles south of Salix.

Some size of the mill may be gathered from the fact that the boiler powering the saw was 22 feet long and the flywheel on the engine was seven feet in diameter. In addition to local timber, thousands of logs were brought down the Missouri in rafts to be processed here. The mill passed out of existence during World War I.

144. Lakeport

This settlement was located in Section 21 of Lakeport Township. A post office operated here in 1857 and 1858 as well as from 1889 to 1902.

145. The Nairn Saw Mill

John Nairn, a pioneer lumberman who came to the region in 1869, started a saw mill operation in Lakeport Township, about four miles southwest of Salix. The thousands of feet of cottonwood and elm his mill turned out every year were of high quality and accurately cut. Although some of the lumber was hauled to Sioux City, most of it was used in the construction of residences and farm buildings in the community.

In addition to furnishing lumber and building materials, the mill produced hundreds of cords of wood for fuel each year. Much of this wood was sold to the Sioux City and Pacific railroad to power locomotives and heat its buildings and coaches. This wood was delivered to Salix or Sloan during the winter months where it was stacked along the railroad right-of-way in ricks eight feet high and 200 to 300 feet long.

146. Friendline's Tavern

George Murphy kept a travelers' stopping place and later a stage house at the farm he operated on the Council Bluffs' road near where Sloan (see No. 147) is now located. West of his farm, near the southwest corner of Sand Hill Lake, he planted crops for sale to new settlers. In the spring of 1855, he met John Friendline who was traveling the stage road. As partners they experienced financial success with a 30-acre crop yielding 1,000 bushels of corn and 20 tons of hay and with the operation of their new "Friendline's Tavern."

147. Sloan

In April, 1868, the Sioux City and Pacific Railroad, the first line to enter Woodbury County, was completed from Missouri Valley, where it

connected with the Chicago Northwestern. The town of Sloan was platted along its right-of-way on July 29, 1870, and was incorporated following a vote of area settlers in 1883.

Sloan is presently located in Section 29 of Sloan Township, which, prior to June 8, 1875, was a portion of Lakeport Township. On that date the county supervisors decreed that the area around Sloan be detached to form its own township.

The original post office in the area, established as Hamlin on March 19, 1867, was located in the area west of town and named after the mail carrier who drove the stage coach from Council Bluffs to Sioux City. On June 29, 1869, the name was changed to Sloan and the post office was moved into town, although the exact location is not known.

Sloan was named in honor of the eastern railroad executive, Samuel Sloan, who for many years served as president of the Delaware, Lackawanna and Western Railway. When John I. Blair built the Sioux City and Pacific, Sloan became interested in the enterprise, and when a station was decided upon at this point, it was given his name. The land on which Sloan now stands was donated to Mr. Blair by a relative of George R. Beall, the area's first permanent white settler.

148. Flower's Island

"Flower's Island," an area located three miles west of Sloan, at the boundary between Woodbury and Monona counties, was formed in 1870 when the Missouri cut chutes around that area. It ceased to be a true island when, by 1915, shifts in the river's course attached the area to Iowa.

The island was named for "King" Wilbert Flower who lived in this wilderness area for many years. Other families moved to Flower's Island until, by the late 1930's, they were able to maintain their own school. These people so valued their privacy that they reportedly chased off a number of women from Onawa (see No. 180), who came with donations. In a similar fashion, they discouraged state inspectors sent to test their cattle.

In 1940 the U.S. Federal Court ruled that 600 acres of Flower's Island actually belonged to the Winnebago Indians and ordered that the land be incorporated into the reservation. The court based its decision on the course of the river as it flowed in 1870, before the chutes were created.

149. Monona County, Iowa

In the summer of 1851, Aaron W. Cook, his son, and Josiah Strong came north from Pottawattamie County in search of bee trees. Pleased with the area, they returned to the present location of Franklin Township, establishing the first permanent settlement in Monona County. These initial settlers made their living by wintering cattle and selling wood to passing boats.

During the same year, Monona was separated from Benton County by an act of the legislature, and joined to Polk County and others for judicial, election and revenue purposes. It remained as such until 1853 when it was similarly attached to Harrison County. Finally organized as a separate county in the spring of 1854, Monona had a population of 202 during its first year of existence.

The three railroads serving the county included the Sioux City and Pacific, and the Carroll and Onawa branches of the Chicago and Northwestern, as well as the Cherokee and Dakota division of the Illinois Central Railroad.

150. Steamboat Sunset

On July 18, 1869, this steamboat sank at a point approximately forty miles below Sioux City.

151. Ross Site (25TS2)

A Nebraska culture earthlodge village was discovered at this site, located about six miles north and one mile west of Macy.

152. New Deal Camp

A work camp for unemployed Indians, the New Deal Camp, was set up under the federal I.E.C.W. Program during the 1930's. Unemployment was particularly bad on the reservation at that time and it was hoped that such a project would help remedy the problem. The camp was a part of Roosevelt's "New Deal," for which it was named.

153. Steamboat Carrie

Owned by Bill Kountz, this 267-ton stern-wheeler was bound for Fort Benton when it sank on August 14, 1868, about two miles above Indian Mission, Nebraska (see No. 157). The boat, valued at $20,000, and her cargo were a total loss.

154. Holy Fireplace

The Holy Fireplace, located in Section 36 of Winnebago Township, was an Omaha Indian "area of vigilance," and as such, served a function in their religious rites.

155. Council Point

Situated in the bluffs overlooking the Missouri River is a site referred to as Council Point. It was at this spot, located in what is now Section 1 of Blackbird Township, that the various Omaha Indian chiefs met to discuss tribal matters.

156. Albaton

Albaton, founded sometime in the 1870's, grew to a population of about 25 by 1890. Its businesses consisted of two stores, a livestock dealer, postmaster, physician, blacksmith, carpenter, two Justices of the Peace, and a Notary Public.

157. The Omaha Mission

Reverend William H. Hamilton, a Presbyterian, was headquartered at the Omaha Mission, located along the bluff line in Section 12 of Blackbird Township. One of the first successful missionaries in the area, he founded the mission in 1854, and superintended its buildings for years.

158. "Village of the Make-Believe White Man" (25TS7)

Under the direction of Joseph LaFlesche, this village, lying about two miles north of Macy, was built by part of the Omaha tribe in 1855. Rather than constructing the traditional earthlodges, its inhabitants apparently built log cabins.

159. Lewis and Clark, August 12, 1804

160. Steamboat Don Cameron

Built by the United States Government for travel on the Yellowstone River, the Don Cameron was on its first trip, carrying baggage and personal property for the Fifth Infantry from Fort Leavenworth to Fort Keogh, when it sank May 17, 1877, near the Omaha-Winnebago Agency (see No. 163). Several lawsuits arose following the disaster, stemming from the fact that an officer was steering the boat, as no Missouri River pilot was aboard.

161. Steamboat Katy P. Kountz

This stern-wheeler sank in 1878, also near the Omaha-Winnebago Agency.

162. Minnie Parker Site (25TS1)

The Minnie Parker site, a Nebraska culture earthlodge village, is situated approximately one mile north of Macy. Limited tests were conducted here by the State Historical Society in 1938.

163. Site 25TS13

25TS13 is the number assigned to the historically significant site of the old Omaha Indian Agency, located about one mile northeast of Macy.

164. Site 25TS19

This site, Site 25TS7 (see No. 158) and a third a few miles to the west were the first villages built by the Omaha when they moved to the reservation in 1855.

165. Blackbird Canyon Site (25TS4)

Located in Blackbird Canyon, one-half mile south and three miles east

of Macy, are a series of petroglyphs carved into an outcrop of Dakota sandstone. The drawings most likely represent historic and prehistoric occupation of the area.

166. Badger Lake

Badger Lake was a hamlet on the west side of the lake by the same name. The Lossing post office operated within the town from 1884 until 1901.

167. Lewis and Clark, August 11, 1804

168. Maple Landing

The community of Maple Landing was not regularly platted as a village, but grew out of necessity for a trading place and a post office location in the area. During the 1870's, the village had two stores, a post office, a blacksmith shop, and a few other businesses and houses, along with its thirty or forty inhabitants.

169. Chief Blackbird's Grave

Blackbird, head chief of the Omahas during the late 18th century, ruled over an area extending on both sides of the Missouri from Bow Creek in Cedar County to Papillion Creek in Sarpy County.

Dying in about 1800, he left behind a reputation so fierce and cruel that it endures to this day. During Blackbird's life, Nebraska belonged to France and Spain. One of the first Indian chiefs on the Missouri to do business with French and Spanish fur traders, Blackbird became well known for his cleverness. When a trader came to his village, the chief would

invite him to his lodge, examine the goods, and select those articles he desired. Laying these aside without payment, he summoned the entire tribe, directing them to bring their furs for exchange with the white man. In a short time Blackbird's lodge would be crowded with Indians bearing beaver, buffalo, otter and other skins. No one was allowed to haggle over the prices fixed by the trader (who was careful to put them high enough to pay several times over for all the goods taken by the chief).

Thus Blackbird and the traders grew rich together, while his people became poor. When they began to complain, a wicked trader gave the chief a secret by which he could maintain his authority. This secret was the deadly poison, arsenic. Following its introduction, the terror of Blackbird and his mysterious power grew within the tribe, making him a prophet as well as a chief. When someone opposed him, Blackbird would foretell his death within a certain time, and undoubtedly within that period a sudden and violent disease carried the victim off in great agony. Before long, all his rivals disappeared and the remaining people agreed to everything Blackbird wished.

The chief was also a distinguished warrior. Captured by the Sioux when only a boy, he escaped and later fought them until they feared his name. He took scalps from both the Oto and Kanza tribes and led his warriors against the Pawnee, burning one of their large towns. To his ability as a fighter, he added the art of making medicine, which was to subsequently aid in overcoming his enemies. Once, when following the trail of a hostile war party, he fired his rifle into the hoofprints of their horses, telling his band it would cripple them so that they could be

overtaken. Blackbird did overtake and kill them, thus illustrating the wonderful effect of his medicine.

Living at the mouth of the Niobrara River, the Ponca Indians were neighbors of the Omaha. One of their parties made a surprise attack on the Omaha, stealing a number of horses and women. Blackbird, gathering his fighting men and giving chase, drove the raiders into a crude fort made by simply throwing up a wall of dirt. The Omaha greatly outnumbered the Ponca and were about to annihilate them when a warrior approached carrying a peace pipe. Blackbird shot him down. After another brave met the same fate, the head chief of the Ponca sent his daughter, dressed in her finest white buckskin suit, with the peace pipe. Blackbird, not shooting this time, took the pipe from the girl's hand and smoked it, thus bringing peace to the tribes.

This Ponca maiden became the favorite wife of Blackbird, but, in one of his violent fits of anger, he took her life. After realizing what he had done, his rage turned to extreme grief. Answering no one, he covered his head with a robe and sat next to the dead body, refusing to eat or sleep. The tribe feared that he would starve to death. As a result, one brave brought a child and laying it on the ground, placed Blackbird's foot upon its neck. This act touched the chief, leading him to throw off his buffalo robe, overcome his sorrow, and take up his duties again.

At last an enemy came against the Omaha which even Blackbird could not withstand. This was smallpox, the white man's disease which the Indians had never known. It came among them like a curse, the fever and blotches

driving them wild. They could not understand how it traveled from lodge to lodge and village to village. Some of the men departed to die alone on the prairie, while others burned their homes and killed their wives and children. The Omaha tribe lost two-thirds of its members to this plague, never to regain its former strength and power.

Blackbird was taken sick and friends gathered about his deathbed to hear his last words. He ordered them to bury him atop a great hill, rising several hundred feet above the Missouri, from which one could see thirty miles up and down the river. So that his spirit might overlook the entire Omaha country, the chief desired to be buried astride his favorite horse. From this vantage he would be the first to see the white mans' boats as they came upriver.

The dying chief's command was carried out. With his body firmly fastened upon its back, his horse was led to the summit of the hill. Sod and dirt were piled about them in a great mound until both were hidden from sight. Scalps, taken by Blackbird in battle were hung from a pole set in the mound. From time to time, food for the spirit of the dead was placed on the grave by the few Omaha who had not died of smallpox.

When Lewis and Clark arrived in 1804, the mound and pole were still there. The bluff, a great landmark of the Nebraska shore, was mentioned by all early writers of the area.

In 1832, George Catlin, the painter and traveler who spent years among the western Indians, came down the Missouri and climbed Blackbird Hill (site of the chief's grave). While digging in the side of the mound, Catlin unearthed a skull. Quickly wrapping it in a blanket, he carried

the skull to Washington where it was placed in the Smithsonian Museum.

Blackbird Hill stands near the banks of the Missouri River today, as it did over 175 years ago when Blackbird was buried at its crest.

170. Lewis and Clark, August 10, 1804

171. Burt County, Nebraska

Burt County, located on the Missouri River between Thurston and Washington counties, was named in honor of Nebraska's first territorial governor, Mr. Francis Burt, who died just three days after taking office. The Proclamation of 1854 established it as one of the original eight counties comprising the Territory of Nebraska. Initially encompassing a tremendous area, the county's boundaries have since been changed, until today Burt County is just a fraction of its original size. Prior to, and at the time of settlement by the white people, the Omaha Indians occupied the area.

In 1853 F. E. Lange explored this entire portion of Nebraska, searching for a suitable location to settle. On his trip he discovered Golden Springs (see No. 194), located near where the highway between Tekamah and Decatur now runs. Lange was so impressed with the appearance of the land that he immediately staked a squatter's claim, placing four logs as a resemblance of a cabin. Although not returning to finish the cabin and locate permanently until 1855, he was the earliest actual settler.

The first organized attempt to settle Burt County was in 1854 by the Nebraska Stock Company, which sponsored a party of pioneers headed by B. R. Folsom. This group left Council Bluffs, passed through Omaha, and

then through the deserted Morman city of "Winter Quarter," later known as Florence, on their way to Fontenelle. From here they proceeded north on a search which brought them to Tekamah Creek where they found the ideal surroundings for their new town. The large stand of timber just three miles east of the townsite was a major positive factor due to the raw materials it could provide for the town's construction.

After laying out their various claims, the settlers determined that it would be necessary for some to make a return trip to Council Bluffs for more provisions and for the required equipment needed to survey the town and nearby farmland. Additional prospective settlers returned with this group bringing the total number to 32. The actual date given for the location of Tekamah (see No. 205) is October 6, 1854.

Burt County was organized, with the formal acknowledgment of the territorial government, on November 23, 1854. Indians of the area were disinherited from the land of their fathers, and following the final treaty in the summer of 1854, were pushed onto the reservation with the remainder of their land falling victim to the continuous spread of the white man's civilization.

The first election for territorial representation was held in December, 1854, after meeting the conditions set forth by the territorial Governor, including completion of a registry of all men pledging permanent residence in the area. At this time, Burt and Blackbird (now called Thurston) counties were joined together and entitled to one councilman and two representatives.

A prolonged drouth, followed by the most severe winter in history, made 1855 a particularly hard year on the early settlers. The December storm which lasted for six days and nights covered the ground with a four-foot layer of snow and drifts from five to fifteen feet deep. Communication with the outside world was cut off and the settlers feared starvation. The severe weather, however, had driven entire herds of deer, antelope and elk to the sheltered bottom lands along the Missouri River and these animals supplied an abundance of food.

Tekamah was incorporated and became the county seat in 1855. For twenty years, the old block house (later the Astor House Hotel, see No. 206), served as a courthouse and jail, until finally in 1877, popular demand for a new courthouse surfaced. There were no funds available for its construction, so petitions were circulated and funds subscribed for a building. The new courthouse, located on the same block as the present courthouse, was constructed at a cost of nearly $3,000. Later, an attempt by those on the west end of Burt County to get Oakland designated as the county seat failed and Tekamah continued to serve in that capacity. The 1878 structure, as well as the Astor House Hotel, were torn down and the present courthouse erected in 1917 at a cost of $70,000.

In 1871 the Omaha and Northwestern built a railroad from Omaha to Herman, a town just south of Burt County. Lack of funds stopped further development until 1876, when new-found capital allowed the railroad's extension to Tekamah. Three years later, the company underwent reorganization and as a result the name was changed to the Omaha and Northern Nebraska Railway. At this time the line was extended to Oakland, where progress

was temporarily halted. Construction resumed in 1881 when rails, stretching the road to Lyons and Bancroft, were laid. A line from Ashland to Sioux City, running through the western portion of Burt County, was built by the Burlington in 1905.

The Burt-Washington Drainage District, a local government subdivision consisting of approximately 70,000 acres of Missouri River bottom land lying between Decatur and Blair, was organized in 1914. Large tracts of land in this area were marshy and remained wet throughout the entire summer season, preventing the growth of any crop and exempting thousands of acres from inclusion on the tax rolls. To remedy this, the Drainage District built about 175 miles of large and small drainage channels, as well as settling basins and diversion ditches.

172. Tieville

Tieville was a post office operating between 1876 and 1878 in the southwest portion of Lincoln Township along the Missouri River. Located seven miles west and one mile south of Onawa (see No. 180), the first sawmill in the western portion of Monona County was built here.

173. Hull's Ferry

Hull's Ferry operated on the Missouri River near Tieville (see No. 172) in Section 7 of Lincoln Township, west of Blue Lake.

174. Decatur

Decatur was laid out in the fall of 1855 by the Decatur Town and Ferry Company. One of the principal organizers of this company was Stephen

Decatur, for whom the town was named.

Changing of the river channel in the 1920's threw the main current against the bank at the end of Main Street, causing several hundred feet of ground to cave into the river. As a result, what originally was the main part of town became river bottom covered by a dense growth of willows. Frequent shifts in the current prevented the permanent location of a ferry boat landing.

In 1927, the Nebraska Legislature passed a bill providing for a bridge across the Missouri at Decatur, followed one year later by Congressional passage of a similar measure. Decatur became well-known in 1955 as the site of a "dry-land bridge" built over a portion of the river where the current was in the process of shifting. During construction, many jokes were told about the two million dollar bridge with no river flowing beneath it. Later, of course, the channel was diverted to a route under the bridge.

175. Ferryboat Queen of Decatur

This motor ferryboat, built during 1905 in Decatur, was caught in the ice and sank at the Decatur dock on April 29, 1909.

176. Steamboat Jacob Sass

A stern-wheel vessel of 179 tons, the Jacob Sass was built in 1865. It sank below Decatur sometime in the 1870's.

177. Ashton

In the summer of 1854, the Monona County Commissioners chose a site for the county seat. The location decided upon was given the name

Bloomfield, which was shortly changed to Ashton because another Bloomfield already existed in Iowa. Actual surveying of the new town was not done until the following spring, with the plat filed July 10, 1856. During its brief life, Ashton had a store, blacksmith shop, steam sawmill, school, hotel and saloon, all of which eventually left following transfer of the county seat to Onawa in 1858. Unsold city lots were deeded back to Isaac Ashton, the original donor of the land and the town site once again became a farm.

178. Lewis and Clark, August 9, 1804, and September 5, 1806

179. Lake City

Lake City was a small community located on the east bank of Blue Lake in Section 1 of Franklin Township.

180. Onawa

Onawa City was laid out in the summer of 1857 by the Monona Land Company, a firm organized to promote the community's growth and to establish a ferry on the Missouri River.

On March 1, 1858, a petition was circulated to relocate the county seat, moving it from Ashton to Onawa City. County voters approved this proposal April 5, and a courthouse was built in Onawa City later that year. The town officially filed for record on October 19, 1858. Eventually, "City" was deleted from the town's name.

181. Lake Quinnebaugh and Holman's Island

A story is told that a man, farming the land that was eventually to be cut off from Iowa, went out one spring to sharpen his plow on the bank

of the Missouri, driving his team and plow through the sandy loam three or four times. Not long after that, the snow in the mountains melted, resulting in the usual June raise. When the river overflowed onto this high ground, it began to cut a deep and narrow ditch that attracted the water from the old channel. The ditch remained narrow for a few years, despite the annual spring flood, but at the end of one winter, the water that had backed up behind blocks of ice broke through with enough force to expand the ditch into a strip of rushing water about twenty feet wide and twice as long. The final cut and ultimate formation of the island was believed to have occurred around 1875.

It was during the 1890's that the newly formed horseshoe-shaped lake was named when a Mrs. Eva Thomason-Hopewell suggested the Indian name "Quinnebaugh."

Newt Holman owned the Iowa land that constituted the new island. He farmed this land as well as used the lake for his Saloon Boat. Continuous observance by the Federal Whiskey Runners often encouraged the dumping of several whiskey loads. Because of his ownership, the land became known as "Holman's Island," also referred to as "Hog Island" or "Thief Island." "Hog Island" originated from Holman's practice of allowing his pigs to run free on the island, while "Thief Island" developed because of the lack of law enforcement. It was undecided as to which state actually contained the island (which previously belonged to Iowa but was now on the Nebraska side of the river), so neither state effectively exercised jurisdiction. For this reason, numerous thieves, murderers, etc. sought refuge from the law there.

The island was later sold to two men, Irvin Rogers and Freeman McNutt. Because of a slight disagreement between them concerning the exact location of the boundary separating their properties, they built two barbed wire fences across the middle of the land. These men in turn sold the island, although the fences remained until sometime after 1915.

In the early 1900's, Ericson's Resort was located on the south shore of the lake. There were public facilities for fishing, boating and swimming, as well as courts for croquet, tennis and horseshoe. Also located here were bath houses, cottages, tents, a hotel, rooming and boarding houses, a combination dance hall-skating rink and a general store. This area was later called the White City Resort.

During these years, elderly Indians from the reservation would come to the island to gather mullein leaves to use as tobacco.

The Missouri River, having formed the lake, chose also to destroy it, by once again flowing through Quinnebaugh, filling it with silt and debris and returning the lake bed to farm land.

Sometime in the 1940's the state boundaries were officially determined, and the Quinnebaugh-Holman's Island area became a part of Burt County, Nebraska.

182. Steamboat Louisville

Engaged in trade between St. Louis and Weston, the Louisville hit a snag and sank at Louisville Bend in April, 1864.

183. Steamboat Nora

The Nora struck a snag and sank on May 30, 1867, at Louisville Bend.

184. Steamboat Roanoke

In 1867 the Roanoke sank at Pratts Cut-off or Louisville Bend.

185. Steamboat Tennessee

Involved in Fort Benton trade, the $12,000 Tennessee sank near the right bank of the river at the head of Louisville Bend, April 25, 1869.

186. Steamboat Mariner

The Mariner sank at Onawa Bend near Decatur, Nebraska, on May 9, 1867, after hitting a snag.

187. Steamboat Damsel

A stern-wheel circus boat, the Damsel sank in 1876 at the head of Onawa Bend. The circus company on board was taken off by Captain Joseph LaBarge on the steamboat John M. Chambers.

188. Steamboat Onawa

Built in 1864 and weighing 403 tons, this stern-wheeler sank at Onawa Bend in 1880.

189. Steamboat Seitz

The Seitz sank for unknown reasons at the head of Onawa Bend.

190. Cook's Landing

In the summer of 1852, Aaron Cook came to what is now Monona County, making him one of the first settlers in this region. Cook's Landing was

located on a portion of his land seven miles southwest of Onawa on the Missouri River in Section 6 of Sherman Township.

191. Pickle City

Pickle City, a lightly populated community spread over an area of ten square miles in the northwest corner of Sherman Township, was so named because its inhabitants made their living by growing cucumbers to be used for pickles. In 1924 the Missouri cut on the north side of Blencoe Bend which became gorged with ice. The people of the area feared that the river would cut back to its old channel, the Mulvihill-McIntyre Lake. As the water moved toward the lake, it flowed through Pickle City causing considerable destruction.

192. Blencoe

This little community, laid out in the summer of 1881 by the Missouri Valley Land Company, is located in Section 9 of Sherman Township, seven miles south of Onawa.

193. Blencoe Co-operative Ferry Company

Created by Articles of Incorporation dated August 7, 1923, this company operated the ferryboat Newa, a chain-driven paddlewheeler powered by a Fordson motor. It sank one summer, but was raised and put back into service following repairs to the motor. In 1927 or 28, it became frozen in ice. Parts of the Newa were salvaged for scrap, but the remainder sank south of Huff's Access.

194. Golden Springs

Golden Springs was discovered by Burt County's first settler, F. E. Lange, in 1853. After laying out the beginnings of a house, he left, but returned in 1855 to finish his cabin and complete his claim to the land. Sometime later, a post office was established here. Known for the quantity and quality of its water, Golden Springs is located approximately ten miles north of Tekamah, near where the highway currently runs toward Decatur.

195. Riverside

Riverside was a settlement located five miles north of Newton (see No. 199) on the Missouri River. The fine stand of timber on the Iowa side encouraged the establishment of a steam sawmill to convert this timber into lumber. Also situated here were a post office, a store and a school.

196. Lewis and Clark, August 8, 1804

197. Lindley's Steam Boat Ferry

Maps dated 1884 show the operation of this ferry in the northwest quarter of Section 31, Sherman Township.

198. Silver Creek

John Oak, for whom Oakland was named, arrived in Tekamah (see No. 205), during July, 1855, accompanied by a party of 24 people, all with the intention of making permanent settlement. This party, having brought their families and the necessary household and farming equipment to start their

new homes, moved northward a few miles and established Silver Creek community near the junction of Silver Creek and the Missouri River bottoms.

199. Newton

Newton, a small community located in the bottom lands east of Tekamah, was named for W. B. Newton, a pioneer of this reigon. In 1880 the town boasted of a store, church, school and other attractions. It was the home of State Senator Beck, brother of the U.S. Senator by that name from Kentucky. The town is now called Arizona.

200. Lewis and Clark, September 6, 1806

201. Steamboat General Meade

Built by William Kountz and owned by Captain Archie Bryant, the General Meade was engaged in trade between St. Louis and the Osage River.

Damaged near Yankton in the spring flood of 1881, the boat had been found in the timber near the Yankton Agency after the water receded. At that time there had been little hope of getting the steamer back on the river, and only after a considerable financial expenditure by the owner was the task accomplished.

Following repairs, the General Meade operated until, on August 25, 1888, loaded with a cargo of 4,000 sacks of wheat, she sank near Pelican Island.

202. Steamboat Judith

The Judith owned by the Tennessee Packet Company and involved in their trade with Fort Benton, sank on July 30, 1888, after striking a snag near Pelican Island.

203. Steamboat Gallatin

A stern-wheeler built in 1864 and involved in Fort Benton trade, the Gallatin sank at the mouth of the Little Sioux River on April 16, 1869.

204. Site 25BT6

The bank of Mud Creek, north of Tekamah, is the location of this site containing the remains of a Woodland village.

205. Tekamah

Tekamah, the Burt County seat, is located on the banks of Tekamah Creek in Section 19 of Arizona Township. It was located by Benjamin R. Folsom's party of settlers on October 6, 1854. When the settlers decided to make this a permanent location for a town, a name had to be selected. It was agreed that members of this first group would write their choice on a slip of paper and place it in a hat. The first name drawn was surveyor William Byer's choice, Tekamah. Why he wrote Tekamah is not known. One theory is that it was in honor of some place in the Far West he had visited. Another version claims that it is an Indian translation meaning, "Big Cottonwoods," a tree found in the area.

The town was incorporated on March 14, 1855, by an act of the first Territorial Legislature of Nebraska.

206. The Old Block House

Considerable excitement and alarm was generated in 1855 by the brutal murder of two boys, by a wandering band of Sioux Indians near Fontenelle. News of the deaths spread quickly and within a short time every settler

in eastern Nebraska was terrified. Fear of a general uprising prompted the people of Tekamah to ask the territorial Governor for aid and protection. The Governor sent General J. M. Thayer to assist in organizing the settlers into a company of soldiers and to build a miniature fortress for protection of the inhabitants.

A two-story blockhouse was hastily built, the dimensions of which were 40 feet by 40 feet, providing ample refuge for the entire settlement in the event of an attack. All the logs used in its construction were hewed square, although finding lumber for finishing the job was a problem due to the lack of a sawmill in the area at this time. This necessitated the construction of rafters from poles flattened on one side and the hauling of roof boards from Omaha by oxen. Shingles were sawed by hand from cottonwood trees found in the area. Before finishing the block house, the settlers learned that only a small group of Indians were responsible for the killings and that, in general, the Indians of the region were very peaceable.

The building was completed just in time for use during an Indian scare in July, 1856. When three hundred Indians came down from the north all the settlers went to the block house for safety. Muskets were primed and ammunition was nearby. As darkness approached, the Indians lit campfires and a regular pow-wow was held which kept up until morning. The little band of whites remained holed up in the fortress all night expecting an attack at any moment, but in the morning the settlers learned that the Indians were a band of Omahas who had no warring intentions, but came merely to bury the body of a squaw next to her husband, a former chief.

This was the only time the early residents of Tekamah and Burt County had occasion to gather in the block house for protection.

In a short time the settlers forgot their fright. The soldiers became tired of drilling and disbanded, and the block house soon ceased to be regarded as a place of protection. It was later converted by B. R. Folsom for use as a hotel called the Astor House, with a hall on the second floor for public gatherings. On May 5, 1857, the hotel was used for the first term of court in Burt County. Prisoners were held during trial in the attic above the court room, which was used as a jail. The block house was located where the current Burt County Courthouse stands.

207. Indian Cemetery at Reservoir Hill

Reservoir Hill in Tekamah, the highest point on the Nebraska side of the Missouri River for many miles in either direction, was a burying ground of the Indians for many years. Traces of this cemetery have been found in the area, including unearthed skeletons of bodies that had carefully been laid away. These skeletal remains indicate that the Indians were interred on the very crest of the hill, bodies stretched full length, heads towards the north star and faces turned eastward looking out over the Missouri River towards the rising sun.

208. Woodville

Woodville was a sawmill and boat landing located three miles south and two miles east of Newton (see No. 199). Wherever those who lived there sawed off a portion of the timber, the Missouri River developed a bend and before long Woodville was entirely washed away.

TABLE OF SOURCES

Local Historians and Archeologists

Mr. R. T. Collingwood - Elk Point, South Dakota

Mr. Paul Culbertson - Dakota City, Nebraska

Mr. Buddy Gilpin - Macy, Nebraska

Mrs. Nina Hunter - Tekamah, Nebraska

Dr. Michael B. Husband - Sioux City, Iowa

Mr. Buff Iverson - Ponca, Nebraska

Mrs. Orris Lamprecht - Newcastle, Nebraska

Mrs. Carol Olson - Tekamah, Nebraska

Mr. Edward Stevens - Hartington, Nebraska

Mrs. Shirley Walpole - Yankton, South Dakota

Mr. Felix White, Sr. - Winnebago, Nebraska

Written Reference Material

Abandoned Towns, Villages and Post Offices of Iowa, by D. C. Mott.

The Amateur Archeologists Handbook, by Maurice Robbins and Mary B. Irving.

American Indian Almanac, by John Upton Terrell.

Before Lewis and Clark, edited by A. P. Nasatir.

Cedar County Historical Map, assembled by J. Keith Cook.

A Century in Review - City of Elk Point, compiled by the Elk Point Centennial Committee.

Clay County Place Names, by the Clay County Historical Society.

Colliers Encyclopedia, 1975 edition, vol. 16.

The Conquest of the Missouri, by Joseph Mills.

Early Steamboat Navigation on the Missouri River, vol. 2, by Captain H. M. Chittenden.

Encyclopedia Americana, 1977 edition, vol. 19.

Encyclopedia of South Dakota, by Doane Robinson.

Federal and State Indian Reservations and Indian Trust Areas, compiled by the U.S. Department of Commerce.

Geographical Sketches of Burt County, by Mrs. Claude A. Perry.

The Great Plains, by Walter Prescott Webb.

Historic Preservation in Nebraska, by the Nebraska State Historical Society.

A Historical Profile of Sioux City, by John F. Schmidt.

History and Cultural Resources of the Missouri River Valley Rulo to South Sioux City Nebraska, by the Nebraska State Historical Society.

A History of Burt County Nebraska from 1803 to 1927.

History of Cedar County, by Jolene Sudbeck.

History of the Counties of Woodbury and Plymouth, Iowa, published by A. Warner and Company.

History of Dixon County, by William Huse.

A History of the Indians of the United States, by Angie Debo.

History of Nebraska, by James C. Olson.

History of Our County and State, compiled by Donald Dean Parker.

History of the Santee Sioux, by Roy W. Meyer.

History of South Dakota, by Herbert S. Schell.

A History of Steamboating on the Upper Missouri, by William F. Lass.

History of Woodbury and Monona Counties.

Iowa: The Rivers of Her Valleys, by William J. Peterson.

The Journals of Captain Meriwether Lewis and Sergeant John Ordway, edited by Milo M. Quaife.

The Journals of the Expedition, vols. 1 and 2, edited by Nicholas Biddle.

The Journals of Lewis and Clark, edited by Bernard DeVoto.

Lewis and Clark, by Roy E. Appleman.

Life on the River, by Norbury L. Wayman.

The Missouri, by Stanley Vestal.

The Missouri Basin's Pick-Sloan Plan; A Case Study in Congressional Policy Determination, by Marian E. Ridgeway.

The Missouri River Basin Comprehensive Framework Study, vol. 2, by the Missouri Basin Inter-Agency Committee.

Nebraska - A Guide to the Cornhusker State, compiled and written by the Federal Writers' Project of the Works Progress Administration for the State of Nebraska.

Nebraska Centennial, Dakota County Nebraska, edited by Mildred Moseman.

Nebraska, The Land and the People, by Addison Erwin Sheldon.

Nebraska Old and New, by A. E. Sheldon.

Noteworthy Men of Tekamah and Vicinity, compiled by the Tekamah Chamber of Commerce.

The Omaha Tribe, vols. 1 and 2, by Alice C. Fletcher and Francis La Flesche.

Past and Present Woodbury County Iowa, edited by the Hon. Constant R. Marks.

The Plains Indians, by Francis Haines.

Prehistoric Man on the Great Plains, by Waldo R. Wedel.

Register of Historic Sites in Clay County, by the Clay County Historical Society.

Report of the Chief of Engineers, U.S. Army - Appendix D, Report on Steamboat Wrecks on the Missouri River, by Captain H. M. Chittenden.

The Rivermen, by Paul O'Neil.

Sioux City - A True Story of How It Grew, by Rose O'Conner.

Sioux City Past and Present, by Virginia Cooper, Janel Gerking and Barbara McLarty.

Social, Economic, and Environmental Effects Assessment of the Missouri River Main Stem System, Report No. 1: Main Stem Assessment Study, vol. 2, compiled by the U.S. Army Corps of Engineers.

South Dakota - A Guide to the State, compiled by the Federal Writers' Project of the Works Progress Administration for the State of South Dakota.

Story of an Old Town, by A. P. DeMilt.

Tekamah 1854-1954, compiled by the Tekamah Chamber of Commerce.

Warner's History of Dakota County, Nebraska, by M. M. Warner.

The Winnebago Tribe, by Paul Radin.

Woodbury County History, assembled and written by the Federal Writers' Project of the Works Progress Administration for the State of Iowa.

The World Book Encyclopedia, 1976 edition, vol. 13.

Yankton: A Pioneer Past, by Robert F. Karolevitz.

Yankton County Historical Markers.

ELEMENT TWO

MISSOURI RIVER HIGH BANK EROSION STUDY
(1972-1975), GAVINS POINT DAM TO PONCA STATE PARK

The 58.4 mile stretch of the Missouri River from Gavins Point Dam to the beginning of channelization just below Nebraska's Ponca State Park is in a nearly natural condition. Although the flow of water in this section is regulated by the dam, the stream is allowed to meander in much the same manner as it did prior to completion of the six, large, main-stem flood control structures. Erosion of the high bank, that strip of land sloping to the river usually characterized by well established plant growth or agricultural usage, has historically been a major problem to landowners adjacent to the Missouri and continues to be of great concern in this area. While under normal conditions high bank erosion is non-existent in the stabilized portion below Ponca State Park, additional control structures have been implemented downstream from the confluence of the Big Sioux and Missouri rivers to provide a guaranteed navigable channel from Sioux City to the Mississippi River.

Within the study area, the high bank erosion problem is well documented by the U.S. Army Corps of Engineers. They estimate that 8,811 acres of high bank land eroded during the firty-five year period, 1930-1975. Of this total, 5,241.2 acres were lost from 1930 till the closing of Gavins Point Dam in July of 1956, with 3,569.8 acres swept away between that date and August of 1975. Losses of slightly more than 725 acres were reported from August, 1972, to August, 1975, which is the most recent period for which data is available.

It appears that the rate of erosion is fairly stable over long periods, with short run variations the result of temporary flows of unusually high volume. Since records were first kept in 1930, the annual erosion rate on

this section of the river has averaged just under 196 acres. This rate declined measurably following completion of Gavins Point Dam in 1956. While losses of nearly 202 acres/year were reported prior to that date, erosion has subsequently diminished to 188 acres annually. The decrease in erosion rate of fourteen acres/year amounts to a seven percent reduction, and demonstrates the structure's value.

Nevertheless, erosion losses much greater than average have been experienced on a number of occasions since construction of the dam. For example, the highest rate on record occurred during the last six months of 1969, when a measurement of 380 acres/year was taken. An uncommonly high sustained discharge of 52,000 cubic feet per second was the probable cause of this elevated erosion rate.

The Corps' erosion data, which is the most authoritative information available at this time, has been tabulated on a point to point basis. Their method requires the identification of prominent landscape features which appear on aerial photographs taken at both the beginning and end of the study period. These landmarks are used as vertices of a quadrangle overlapping both banks of the river. The change in high bank area observed when comparing the more recent photograph to that which was taken earlier, represents the amount of erosion occurring during the period. Since the estimates derived in this manner are dependent upon arbitrary points along the river bank, separated by substantial distances (over one mile at times), it is impossible to utilize this method to determine erosion on a parcel by parcel basis.

This study was conducted to estimate the high bank loss during the period August, 1972, through August, 1975, for that portion of the Missouri River

from Gavins Point Dam to a point just below Ponca State Park. Total erosion was then assigned to individual landowners on a parcel by parcel basis. To achieve this, conventional photogrammetric techniques were employed to develop a breakdown of the Corps' erosion figures for relatively long stretches of the river, thus making them appropriate for per parcel allocation. It was also necessary to determine the ownership of those lands adjacent to the Missouri within the study area.

The procedure used in making high bank erosion estimates for each parcel included the following steps:

1) Acquisition of ownership information for each parcel adjoining the river within the study area, which consisted of Cedar and Dixon counties in Nebraska, as well as Yankton, Clay and Union counties in South Dakota. The data was collected at each county courthouse and included the name of the owner, the location of the parcel, and its size. Based upon these findings, an ownership work map was developed on a scale of 1 to 24,000.

2) Combination of U.S. Army Corps of Engineers' erosion estimates for the years 1972-74 and 1974-75, to provide base data for the 1972-75 study period. This information consisted of a point to point erosion breakdown for each bank of the river.

3) Allocation of the Corps' erosion totals to each individual parcel based upon comparison of August, 1972, and August, 1975, aerial photographs. Losses were apportioned to reflect changes in the high bank evident on the photographs. The 1972 aerials were on a scale of 1 to 24,000, while the 1975's were on a 1 to 12,000 scale. In cases where the loss during the three-year study period was so small as to make accurate per parcel allocations

based on comparison of aerial photographs impossible, it was assumed that the erosion rate was uniform and that losses were proportional to the length of then existing river bank. Erosion was thus distributed in accordance with the distance each parcel bordered upon the Missouri.

The products of this effort are the following maps, tables and graphs which list the ownership, location, size, and erosion occurring from 1972 to 1975 for each parcel in the study area.

SECTION ONE

BASE DATA

MISSOURI RIVER BANK EROSION STUDY

GAVINS POINT DAM TO PONCA STATE PARK

AUGUST, 1972 THROUGH AUGUST, 1975

EROSION AREA

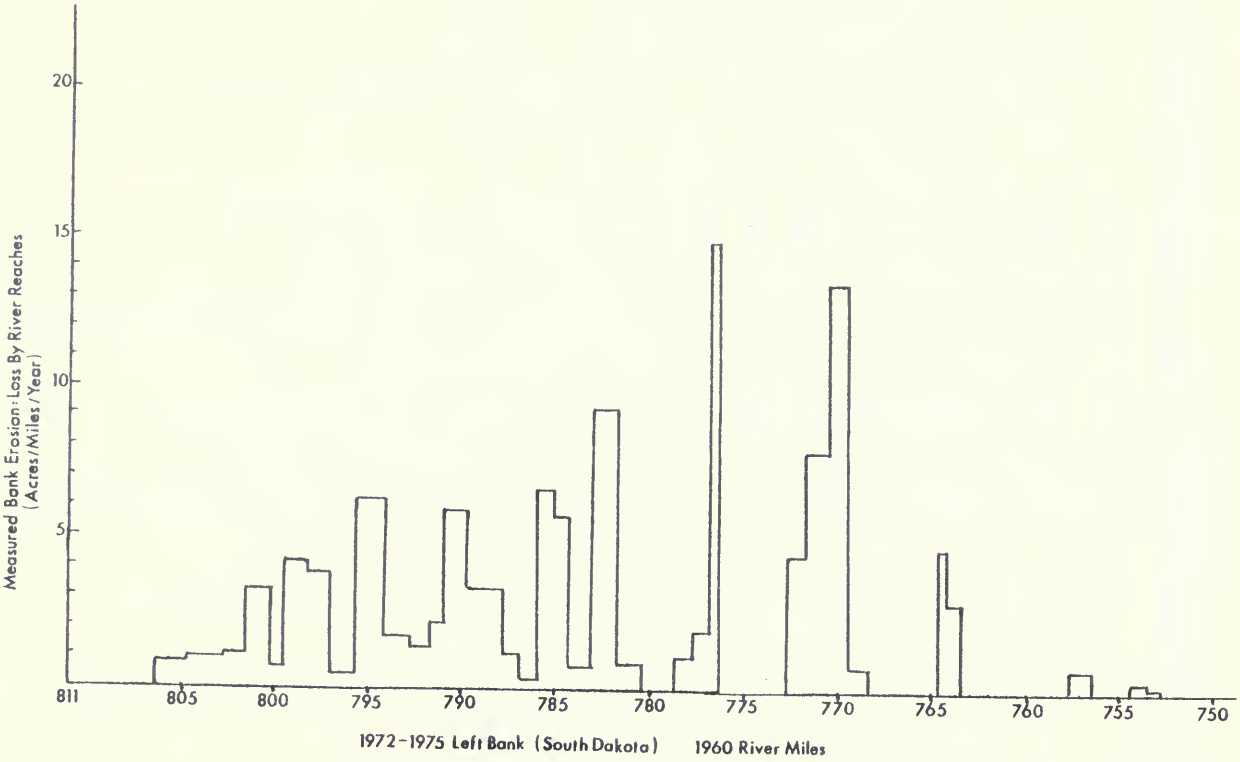
1960 River Mile	Left Bank (SD)		Right Bank (Nebr.)	
	(Acres)	(Acres/Mile/Yr.)	(Acres)	(Acres/Mile/Yr.)
811.0				
	0.00	0.00	0.00	0.00
806.3				
	3.67	0.87	4.14	0.99
804.9				
	4.37	1.04	6.43	1.53
803.5				
	2.53	1.05	4.14	1.72
802.7				
	4.59	1.09	1.61	0.38
801.3				
	11.25	3.12	17.22	4.78
800.1				
	1.15	0.64	0.92	0.51
799.5				
	16.30	4.18	11.48	2.94
798.2				
	14.00	3.89	23.88	6.63
797.0				
	1.84	0.47	11.70	3.00
795.7				
	28.00	6.22	1.84	0.41
794.2				
	8.03	1.78	2.98	0.67
792.7				
	4.36	1.32	2.52	0.76
791.6				
	5.05	2.10	5.05	2.10
790.8				
	21.12	5.87	0.00	0.00
789.6				
	17.45	3.23	0.00	0.00
787.8				
	3.21	1.19	13.31	4.93
786.9				
	1.15	0.38	8.03	2.68
785.9				

1960 River Mile	Left Bank (SD)		Right Bank (Nebr.)	
	(Acres)	(Acres/Mile/Yr.)	(Acres)	(Acres/Mile/Yr.)
785.9	17.44	6.46	22.04	8.16
785.0	13.54	5.64	3.21	1.34
784.2	2.53	0.70	19.06	5.29
783.0	33.52	9.31	33.29	9.25
781.8	3.44	0.82	0.00	0.00
780.4	0.00	0.00	0.00	0.00
779.5	0.00	0.00	5.05	1.87
778.6	3.44	1.04	13.77	4.17
777.5	5.05	2.10	0.00	0.00
776.7	17.91	14.92	0.00	0.00
776.3	0.00	0.00	9.18	2.78
775.2	0.00	0.00	10.79	3.00
774.0	0.00	0.00	0.00	0.00
773.4	0.00	0.00	0.00	0.00
772.7	15.15	4.59	7.57	2.29
771.6	33.06	7.87	0.00	0.00
770.2	32.83	13.68	0.00	0.00
769.4	2.30	0.77	19.05	6.35
768.4	0.00	0.00	31.00	7.95
767.1	0.00	0.00	0.00	0.00
765.9	0.00	0.00	8.26	2.50
764.8	9.65	4.60	7.12	3.39
764.1	7.11	2.96	8.26	3.44
763.3				

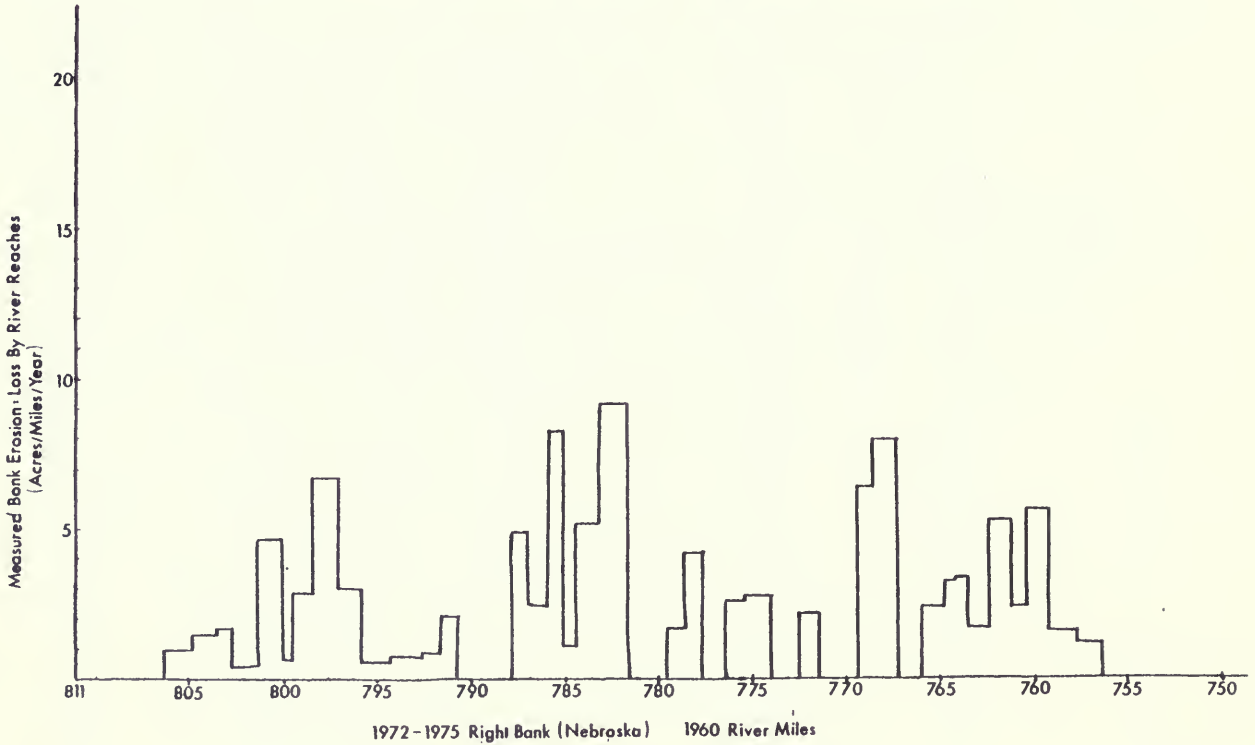
1960 River Mile	Left Bank (SD) (Acres)	Left Bank (SD) (Acres/Mile/Yr.)	Right Bank (Nebr.) (Acres)	Right Bank (Nebr.) (Acres/Mile/Yr.)
763.3				
	0.00	0.00	5.28	1.60
762.2				
	0.00	0.00	19.28	5.36
761.0				
	0.00	0.00	7.81	2.89
760.1				
	0.00	0.00	16.99	5.66
759.1				
	0.00	0.00	8.26	1.84
757.6				
	2.30	0.59	6.20	1.59
756.3				
	0.00	0.00	0.00	0.00
755.3				
	0.00	0.00	0.00	0.00
754.3				
	0.92	0.38	0.00	0.00
753.5				
	0.46	0.17	0.00	0.00
752.6				
TOTAL PERIOD	348.72	1.99	376.72	2.15

TOTAL BOTH BANKS	Acres	Acres/Mile/Yr.
	725.44	2.07

Missouri River High Bank Erosion Analysis – Gavins Point Dam to Ponca State Park
Derived From U.S. Army Corps of Engineers' Data



Missouri River High Bank Erosion Analysis – Gavins Point Dam to Ponca State Park
Derived From U.S. Army Corps of Engineers' Data



SECTION TWO

PER PARCEL ALLOCATION OF HIGH BANK EROSION

CEDAR COUNTY, NEBRASKA*

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
1	United States Government	NA		
2	United States Government	118.49		
3	Floyd Nohr Estates (subdivision)	24.00		
4	Agnes Merkel	40.00		
5	Helen Schemp	221.00		
6	Helen Schemp	32.00		
7	Helen & William F. Schemp	145.92	According to information supplied by the U.S. Army Corps of Engineers, the loss in parcels 1-16 was insignificant.	
8	Jerome Tramp	2.00		
9	Nohr Homes Subdivision	11.00		
10	Alphonse & Clara Heine et. al.	95.00		
11	Lawrence Haberman	14.00		
12	Lawrence Haberman	17.48		
13	Alphonse & Clara Heine et. al.	74.00		
14	Francis G. Berberich	85.98		
15	Richard D. & Juanita B. Smith	5.00		
16	Lerena F. Levenger et. al.	15.00		
17	William L. Clark	80.00	0.00	0.00
18	Alfred L. Potts	155.84	0.00	0.00
19	Lerena F. Levenger	299.70	0.00	0.00
20	City of Yankton	26.00	0.29	0.10
21	City of Yankton	27.23	0.00	0.00
22	State of Nebraska	15.97	0.00	0.00
23	Rose Kohls	18.86	0.58	0.19
24	Rose Kohls	99.77	0.00	0.00
25	Leonard Heine	44.72	1.12	0.37
26	Leonard Heine	80.00	0.00	0.00
27	Karen Harmelink	80.00	0.00	0.00
28	Albert M. Mueller	69.10	2.86	0.95
29	Albert M. Mueller	340.00	0.00	0.00
30	John L. Nelson	287.10	2.06	0.69
31	Peter J. & Cressentia Loecker	59.50	2.44	0.81
32	Peter J. & Cressentia Loecker	83.00	0.00	0.00
33	Herman Potts	307.50	2.83	0.94

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
34	William Clark	12.00	0.00	0.00
35	Herman Potts	2.00	0.00	0.00
36	John L. & Marion L. Nelson	19.00	1.45	0.48
37	William L. Clark	60.00	0.00	0.00
38	Horace C. & Dorothy E. Clark	50.00	0.00	0.00
39	William L. Clark	26.67	0.00	0.00
40	William H. Lee	13.33	0.00	0.00
41	Emil R. & Dorothy M. Broz	16.40	1.08	0.36
42	Herbert H. Halle	137.50	0.34	0.11
43	Emil R. & Dorothy M. Broz	4.70	0.40	0.13
44	Daniel Heine & Myron Heine	120.00	0.00	0.00
45	Herbert H. Halle	148.99	0.11	0.04
46	Leonard G. & Mary A. Heine	200.00	0.00	0.00
47	Lerena F. Levenger	7.00	0.40	0.13
48	Herbert H. Halle	27.30	0.15	0.05
49	Donald E. & Cyrilla W. Jones	17.60	3.31	1.10
50	Donald E. & Cyrilla W. Jones	268.91	0.00	0.00
51	Helen G. Bruening et. al.	150.00	14.54	4.85
52	Leonard Heine et. al.	Total 232.80	0.00	0.00
53	Francis J. Heine		0.44	0.15
54	Henry Becker Jr.	81.00	1.44	0.48
55	Arnold Becker	70.00	1.49	0.50
56	Henry Becker Jr.	12.69	0.57	0.19
57	Allen J. Heine	133.00	2.76	0.92
58	Cedar County, Nebraska	8.00	1.49	0.50
59	Anthony Schmidt	78.00	2.07	0.69
60	Anthony G. & Lorraine G. Schmidt	82.00	2.91	0.97
61	Allen Heine	86.00	5.25	1.75
62	Allen Heine	89.00	5.02	1.67
63	Agnes Schmidt	186.30	16.51	5.50
64	Agnes Schmidt	78.20	7.98	2.66
65	Agnes Schmidt	110.60	2.51	0.84
66	A. W. Horsely, Swen Anderson, Lee Messenger, Joseph Dvorack	5.07	0.59	0.20
67	Kenneth J. Stratman	35.00	0.00	0.00
68	Agnes Schmidt	525.50	0.00	0.00

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
69	Allen J. Heine	104.20	0.00	0.00
70	Allen J. Heine	180.00	0.00	0.00
71	Agnes Schmidt	145.30	0.00	0.00
72	Kenneth J. Stratman	280.00	0.00	0.00
73	Kenneth J. Stratman	132.00	0.00	0.00
74	Swen Anderson, Lee Messenger, Joseph Dvorack	27.03	0.45	0.15
75	Swen Anderson, Lee Messenger, Joseph Dvorack	33.53	0.45	0.15
76	James H. Cullinane	62.50	0.00	0.00
77	G. H. Schulte	NA	0.00	0.00
78	Jerome & Darlene Stratman	40.00	0.00	0.00
79	Henry M. Schmidt	76.40	0.00	0.00
80	James H. Cullinane	95.00	0.00	0.00
81	James H. Cullinane	6.00	0.00	0.00
82	Swen Anderson, Lee Messenger, Joseph Dvorack	17.37	0.15	0.05
83	James H. Cullinane	56.55	0.38	0.13
84	Gladys Jones	4.00	0.00	0.00
85	Swen Anderson, Lee Messenger, Joseph Dvorack	14.36	0.25	0.08
86	Swen Anderson, Lee Messenger, Joseph Dvorack	44.48	1.16	0.39
87	A. W. Horsely, Swen Anderson, Lee Messenger, Joseph Dvorack	14.98	1.03	0.34
88	A. W. Horsely, Swen Anderson, Lee Messenger, Joseph Dvorack	182.69	0.13	0.04
89	James H. Cullinane	130.10	0.00	0.00
90	Swen Anderson, Lee Messenger, Joseph Dvorack	200.81	0.63	0.21
91	Jerome T. & Zeta Boeckman	26.00	0.00	0.00
92	Swen Anderson, Lee Messenger, Joseph Dvorack	137.90	4.29	1.43
93	Swen Anderson, Lee Messenger, Joseph Dvorack	38.00	0.00	0.00

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
94	Robert G. & Emile J. Scoville	53.00	0.00	0.00
95	Philip F. Verzani	NA	0.00	0.00
96	Maurice & Julia Ketter	131.50	3.06	1.02
97	Maurice & Julia Ketter	14.00	0.00	0.00
98	Clovis L. Wienandt	224.60	0.00	0.00
99	Jerome T. & Zeta M. Boeckman	224.23	0.00	0.00
100	Ray Promes & William Winther	123.00	0.00	0.00
101	Ray Promes & William Winther	14.96	2.80	0.93
102	Ray Promes & William Winther	120.00	5.32	1.77
103	Ray Promes & William Winther	204.94	0.00	0.00
104	Frank A. Pick	4.42	0.00	0.00
105	Irene M. & Lyle H. Olsen	70.63	3.82	1.27
106	Ella Whitney	47.25	0.96	0.32
107	Lawrence Pinkelman	2.82	0.00	0.00
108	Frank A. Pick	73.82	0.00	0.00
109	Ella Whitney	63.20	3.37	1.12
110	Lawrence Pinkelman	118.00	0.00	0.00
111	Frank A. Pick	20.00	0.00	0.00
112	Vernon & Ilith Guy	118.75	9.72	3.24
113	Hubert Reifenrath	28.00	0.00	0.00
114	Hubert Reifenrath	64.00	5.95	1.98
115	Vernon & Ilith Guy	15.00	5.73	1.91
116	Yvonnie Grasser	1.30	0.44	0.15
117	Carroll E. & Jan B. Arndt	40.00	2.43	0.81
118	Arthur & Ellen Driver	21.00	0.49	0.16
119	Arthur & Ellen Driver	25.65	0.77	0.26
120	Urban F. & Alphonse J. Pinkelman	44.00	3.25	1.08
121	Leota Gowery	21.00	3.81	1.27
122	Harley Gowery	21.00	3.81	1.27
123	Robert Koch	12.50	7.63	2.54
124	Bernard Klug	13.30	6.62	2.21
125	Robert Koch	6.25	2.66	0.89
126	LeRoy Beste	50.82	13.32	4.44
127	LeRoy Beste	25.00	6.66	2.22
128	Hubert Reifenrath	26.00	5.33	1.78

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
129	Joseph F. & Donna Reifenrath	2.00	0.99	0.33
130	Joseph F. & Donna Reifenrath	120.00	0.00	0.00
131	Harley Gowery	25.41	0.00	0.00
132	LeRoy Beste	54.59	0.00	0.00
133	Donald Koch	80.00	0.00	0.00
134	Alvin O. Baldridge	200.00	0.00	0.00
135	Raymond Koch	80.00	0.00	0.00
136	Leota Gowery et. al.	40.00	0.00	0.00
137	Leota Gowery et. al.	40.00	0.00	0.00
138	Harley Gowery	40.00	0.00	0.00
139	Hubert Reifenrath	40.00	0.00	0.00
CEDAR COUNTY TOTAL			192.85	64.28

*Rush Island, due to its location on the left bank, is included with parcels from Yankton County, South Dakota.

NA = Not Available

DIXON COUNTY, NEBRASKA

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
1	Henry Klanderud & wife	65.00	0.00	0.00
2	Arnold Johnson	180.00	0.00	0.00
3	J. C. Dawson, Jr.	34.00	0.00	0.00
4	J. C. Dawson, Jr.	41.00	0.00	0.00
5	Howard Johnson	12.00	0.00	0.00
6	Edmund J. Pinkelman et. al.	80.00	0.00	0.00
7	Howard Johnson	115.60	0.00	0.00
8	J. C. Dawson, Jr.	155.90	0.00	0.00
9	Edmund J. Pinkelman et. al.	156.40	0.00	0.00
10	Arnold Johnson	173.70	0.00	0.00
11	Howard Johnson	2.70	1.77	0.59
12	Howard Johnson	2.00	1.51	0.50
13	J. C. Dawson, Jr.	17.50	3.84	1.28
14	Edmund J. Pinkelman et. al.	20.00	4.13	1.38
15	Arnold Johnson	59.00	4.82	1.61
16	Joseph F. Reifenrath & wife	82.70	2.75	0.92
17	Darrel C. Driver & wife	117.10	0.00	0.00
18	P. F. Verzani	91.30	0.00	0.00
19	P. F. Verzani	20.40	0.00	0.00
20	Fintan J. Hoesing & wife	99.20	1.15	0.38
21	Fintan J. Hoesing & wife	129.00	0.00	0.00
22	Ruby Rahn et. al.	108.20	3.44	1.15
23	Ruby Rahn et. al.	64.24	3.44	1.15
24	Orville Hoesing & wife	24.80	3.85	1.28
25	Harold Hoesing	8.00	1.89	0.63
26	Harold Hoesing	24.00	4.86	1.62
27	Orville Hoesing & wife	81.00	1.35	0.45
28	Harold Hoesing & wife	28.00	0.00	0.00
29	Harold Hoesing & wife	91.40	0.00	0.00
30	P. F. Verzani	72.30	0.00	0.00
31	P. F. Verzani	36.00	0.00	0.00

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
32	State of Nebraska	163.10	1.51	0.50
33	P. F. Verzani	16.80	0.76	0.25
34	Ruby Rahn	10.80	0.00	0.00
35	John P. Kleinberg et. al.	75.50	1.89	0.63
36	State of Nebraska	27.50	0.00	0.00
37	State of Nebraska	68.00	2.27	0.76
38	A. L. Conrad	164.90	1.14	0.38
39	P. F. Verzani et. al.	79.80	0.00	0.00
40	P. F. Verzani et. al.	132.80	0.00	0.00
41	P. F. Verzani et. al.	361.60	0.00	0.00
42	P. F. Verzani et. al.	4.00	0.00	0.00
43	A. L. Conrad	38.00	0.00	0.00
44	Earl D. Gatzemayer & wife	50.00	0.00	0.00
45	P. F. Verzani	31.00	1.43	0.48
46	Earl D. Gatzemayer & wife	207.50	12.38	4.13
47	Earl A. Rowland & wife	235.00	5.24	1.75
48	Allen Ellyson & wife	2.00	0.00	0.00
49	Earl A. Rowland & wife	57.00	6.82	2.27
50	Allen S. Ellyson & wife	160.50	15.50	5.17
51	Allen S. Ellyson & wife	17.00	8.68	2.89
52	Darrel G. Curry & wife & Sam Curry	2.00	0.00	0.00
53	Darrel G. Curry & wife & Sam Curry	0.50	0.00	0.00
54	Darrel G. Curry & wife & Sam Curry	99.00	0.00	0.00
55	Herold Pansegrau	102.50	0.41	0.14
56	Russel V. Hanson	109.00	2.48	0.83
57	Russel V. Hanson	70.00	2.07	0.69
58	Orris C. Lamprecht & wife	330.00	8.28	2.76
59	Reinhold J. Lembke & wife	5.00	1.28	0.43
60	Doyle R. Hanson	80.00	0.00	0.00
61	Bernard Pearson et. al.	15.00	1.90	0.63
62	Reinhold J. Lembke & wife	61.00	3.14	1.05
63	Hubert Allen Cochran & wife	1.00	0.66	0.22
64	Otto J. Kollbaum	1.00	0.53	0.18
65	Paul Mille	40.00	0.00	0.00

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
66	Clarence P. Kneifl	30.00	1.20	0.40
67	Frances Mary Knudson & husband	20.00	0.00	0.00
68	Mina C. Mille et. al.	36.00	0.63	0.21
69	Reinhold J. Lembke & wife	385.00	2.59	0.86
70	Sylvester A. Beyeler	80.00	0.00	0.00
71	George R. Ellyson & wife	80.00	0.00	0.00
72	George R. Ellyson & wife	80.00	0.00	0.00
73	Clair W. Fluent	40.00	0.00	0.00
74	Clair W. Fluent & wife	80.00	0.00	0.00
75	Elmer Olson	121.00	2.80	0.93
76	Martin Pearson & wife	39.00	0.95	0.32
77	George Schweers	40.00	0.00	0.00
78	Johann Schweers et. al.	80.00	4.82	1.61
79	Newton Farms Inc.	120.00	14.85	4.95
80	Herman Schweers & wife	261.00	9.12	3.04
81	Herman Schweers & wife	141.00	22.31	7.44
82	Rudolph Hoesing	120.00	0.00	0.00
83	Rudolph Hoesing	80.00	0.00	0.00
84	Johann Schweers et. al.	70.00	1.24	0.41
85	Newton Farms Inc.	480.00	0.00	0.00
86	Johann Schweers et. al.	2.20	0.62	0.21
87	Newton Farms Inc.	54.40	5.58	1.86
88	Glen D. Watchorn et. al.	12.15	0.00	0.00
89	Anson Schram	5.83	0.00	0.00
90	Glen D. Watchorn et. al.	214.63	0.00	0.00
91	Johann Schweers & wife	34.80	0.00	0.00
92	Anson Schram	298.58	0.00	0.00
93	Anson Schram	201.26	0.00	0.00
94	Anson Schram	30.00	0.00	0.00
95	Nebraska Games & Parks Commission	272.30	0.00	0.00
96	State of Nebraska Parks Commission	159.50	0.00	0.00
97	Francis E. Woodford & wife	40.09	0.00	0.00
98	State of Nebraska	151.50	0.00	0.00

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
99	State of Nebraska	32.60	0.00	0.00
100	Nebraska State Bank	39.50	0.00	0.00
101	State National Bank & Trust Company	8.38	0.00	0.00
102	Earl Curry & wife	73.50	0.00	0.00
103	Earl Curry & wife	2.50	0.00	0.00
104	Mary Lockwood	28.00	0.00	0.00
105	Delmar & Esther Brennan	15.00	0.00	0.00
106	Rosina Davey et. al.	237.70	0.00	0.00
107	David Hogan	12.59	0.00	0.00
108	Lyle Willoughby & wife	1.00	0.00	0.00
109	Robert Johnson	0.75	0.00	0.00
110	Nebraska State Bank	2.25	0.00	0.00
111	William E. Andrews	1.40	0.00	0.00
112	Nick Wellenstein	4.30	0.00	0.00
DIXON COUNTY TOTAL			183.88	61.29
TOTAL RIGHT BANK			376.73	125.58

YANKTON COUNTY, SOUTH DAKOTA*

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
1	Riverside Acres	69.00	According to information	
2	Shore Estates	103.00	supplied by the U.S.	
3	Alphonse Heine	180.00	Army Corps of Engineers,	
4	Frank Branaugh	3.00	erosion in parcels 1-5	
5	Frank Branaugh	31.00	was negligible.	
6	Yankton City Limits	NA	3.34	1.11
7	John Erick	NA	0.33	0.11
Rush Island	M/M Isaak	994.00	10.53	3.51
8	City of Yankton	7.00	0.00	0.00
9	A. J. Rhian	56.60	0.00	0.00
10	State of South Dakota	34.00	0.00	0.00
11	Gurney Seed Company	71.00	0.00	0.00
12	Gurney Seed Company	44.00	0.00	0.00
13	Robert Schaefli	253.00	0.46	0.15
14	William & Ruth Coulson	38.00	0.50	0.17
15	Henry Strunk	20.00	0.90	0.30
16	William Coulson et. ux.	80.00	1.58	0.53
17	William & Ruth Coulson	20.00	0.22	0.07
18	Hokey Johnson	5.00	0.90	0.30
19	Victor White est.	60.00	1.69	0.56
20	Victor White est.		2.25	0.75
21	Gary Heine et. al.	84.16	1.35	0.45
22	Victor White	Total 255.00	3.23	1.08
23	Yankton County	55.00	0.00	0.00
24	Victor White		0.00	0.00
25	Martin Slemp	53.35	0.00	0.00
	Mark Welby	160.00		
	Mary Henning	15.15		
26	Floren Weaverstad	80.00	0.00	0.00
27	Lyle Van Orsdel	3.60	1.91	0.64
28	Floren Weaverstad	27.90	14.67	4.89

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
29	Lyle Van Orsdel	342.50	0.00	0.00
30	Lyle Van Orsdel	61.50	0.00	0.00
31	Floren Weaverstad	85.71	7.14	2.38
32	Thomas White	20.00	0.00	0.00
33	Floren Weaverstad	85.70	5.74	1.91
34	Floren Weaverstad	16.73	1.12	0.37
35	Weaverstad's Addition		0.35	0.12
36	Burnell Johnson	150.00	0.33	0.11
37	Weaverstad's Addition — Total	40.00	0.17	0.06
38	Marvin L. Ryken	88.00	0.42	0.14
39	Paul Jensen	72.00	0.39	0.13
40	Lydia Rinnan	27.80	0.18	0.06
41	Marvin L. Ryken	75.00	9.80	3.27
42	Clinton Kaser	158.00	0.00	0.00
43	Alfreda Christensen	120.00	10.08	3.36
44	Alfred Jacobsen	156.00	0.00	0.00
45	Alfred Jacobsen	117.00	9.40	3.13
46	Jennie Neilson Jacobsen	79.00	0.00	0.00
47	(Not possible to locate		1.12	0.37
48	ownership information for		4.10	1.37
49	these three parcels)		1.53	0.51
50	Viola Nelson	188.50	1.00	0.33
51	Carl and Margaret Miller	227.55	3.36	1.12
52	Carl and Margaret Miller	16.66	1.11	0.37
53	Dorothy Gurney	9.09	0.51	0.17
54	Dorothy Gurney	110.00	7.44	2.48
TOTAL YANKTON COUNTY			109.15	36.38

*Including Rush Island (Cedar County, Nebraska)

NA = Not Available

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
1	Hans Jepson	40.00	0.00	0.00
2	Minnie Jensen	40.00	0.00	0.00
3	Harold Jensen	40.00	0.00	0.00
4	Minnie Jensen	87.23	6.97	2.32
5	Hans Jepson	40.00	0.00	0.00
6	A. W. & E. W. Jensen	80.00	0.00	0.00
7	J. & M. Kronaizl	40.00	0.00	0.00
8	Howard Peterson	80.00	0.00	0.00
9	Amanda C. Erickson	93.00	11.19	3.73
10	Niels A. & Annie E. Jensen	112.00	2.27	0.76
11	Alva J. Jepsen	40.00	0.00	0.00
12	Carla Sorensen	120.00	0.00	0.00
13	Laverne & D. Jepsen	30.00	5.06	1.69
14	Carla Sorensen	39.00	0.00	0.00
15	G. S. & O. M. Myron	101.20	5.76	1.92
16	Adolf & Marie Hanson	5.00	4.02	1.34
17	State of South Dakota	50.00	2.53	0.84
18	Maggie Hanson	88.00	0.29	0.10
19	Otto Hanson	10.00	0.00	0.00
20	M/M Howard	5.00	0.00	0.00
21	Otto Hanson	15.00	0.00	0.00
22	Harry Jorgensen	10.00	0.00	0.00
23	G. Johnson	5.00	0.00	0.00
24	Gaylord W. Smith et. al.	99.60	0.00	0.00
25	Danielson's Subdivision	26.60	0.57	0.19
26	Homes Forrest Addition	169.35	5.32	1.77
27	Martin Jorgensen	50.00	0.00	0.00
28	Harry Jorgensen	103.00	0.00	0.00
29	Melvin L. & Ruth Iverson	39.00	0.00	0.00
30	Francis M. Armstrong	165.59	0.00	0.00
31	Harry Jorgensen	71.50	4.71	1.57

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
32	Francis Armstrong	77.85	5.23	1.74
33	Mae Iverson	102.26	4.61	1.54
34	Mae Iverson	52.50	0.00	0.00
35	Mae Iverson	90.40	0.00	0.00
36	G. Benson	3.90	0.68	0.23
37	M. Arcotte	3.33	0.81	0.27
38	Evelyn Benson	2.84	0.81	0.27
39	Doyle Robbenson	2.38	1.62	0.54
40	Amos Benson	2.00	1.76	0.59
41	Sophia Kronaizl	60.40	0.00	0.00
42	Darrel & Joyce Benson	92.81	2.71	0.90
43	John & Edna Grey	39.00	0.00	0.00
44	Twila Larson & Trudy Macy	120.00	0.00	0.00
45	Twila Larson & Trudy Macy	62.10	0.00	0.00
46	John & Edna Grey	approx. 30.00	2.17	0.72
47	Clarence & Ruby Armstrong	27.00	1.49	0.50
48	Clarence & Ruby Armstrong	42.00	0.51	0.17
49	Twila Larson & Trudy Macy	40.00	0.00	0.00
50	Esther Bottolfson	76.00	0.53	0.18
51	Lloyd & Ida Gray	20.00	0.00	0.00
52	C. Gray	2.00	0.28	0.09
53	Walter Kaeberle	80.00	0.28	0.09
54	Lloyd & Ida Gray	55.00	0.00	0.00
55	Jaquith Subdivision	44.00	3.60	1.20
56	R. Rasmussen	5.00	0.00	0.00
57	Elmer Rasmussen	6.10	1.68	0.56
58	Peterson & McCahren	2.10	1.01	0.34
59	Ralph Rasmussen	52.95	4.36	1.45
60	Hans Rasmussen	130.00	8.04	2.68
61	Ernest Bartels	110.00	7.71	2.57
62	Donald Gregg	222.00	7.40	2.47
63	Lorenna Bottolfson	231.50	0.55	0.18
64	Francis J. Heine	310.50	0.79	0.26
65	Clay County	105.99	0.00	0.00
66	State of South Dakota	120.58	0.00	0.00

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
67	Clay County	98.65	0.83	0.28
68	Will Feight	346.30	1.24	0.41
69	Daniel Heine et. al.	359.00	0.00	0.00
70	Geraldine Remmes et. al.	553.94	0.00	0.00
71	Bettilou Burdette (Subject to Life Estate of Evelyn Erickson)	863.15	0.00	0.00
72	Nels Brunick Jr. (Subject to Life Estate of Chester and Helena Collins)	249.41	0.00	0.00
73	Verner Sorenson	8.50	0.93	0.31
74	Verner Sorenson	156.15	0.00	0.00
75	Verner Sorenson	60.00	0.00	0.00
76	Bernt & Hazel Westre	223.00	0.00	0.00
77	Bernt & Hazel Westre - Trustees	159.00	0.00	0.00
78	Frost Trust Estate - E. A. Bogue, Trustee	809.00	25.47	8.49
79	Nels Sorenson	373.72	0.00	0.00
80	Verner Sorenson	52.58	0.00	0.00
81	Verner Sorenson	80.00	0.00	0.00
82	Ben Powell	150.00	0.00	0.00
83	Alphonse Heine	323.50	0.00	0.00
84	Alphonse Heine	approx. 250.00	1.97	0.66
85	Alphonse Heine	780.00	13.18	4.39
86	M. L. Coyne	33.10	0.00	0.00
87	Wayne E. & Marjorie Heckenlively	80.00	0.00	0.00
88	Wayne E. Heckenlively	20.00	4.30	1.43
89	Alvin Gunderson	54.00	12.56	4.19
90	Vera W. Fuller	27.00	0.00	0.00
91	Darrell Halverson	55.00	0.00	0.00
92	Lyman Burgess	30.10	0.00	0.00
93	G. Smith & Jean Shaw et. al.	81.00	16.20	5.40
94	Vera W. Fuller	200.00	0.00	0.00
95	M. L. Coyne	40.00	0.00	0.00
96	P. D. Manning	162.00	0.00	0.00
97	G. Smith & Jean Shaw et. al.	220.10	32.83	10.94
98	Neil Helvig & Richard Hagemier	121.18	0.76	0.25

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
99	Neil Helvig & Richard Hagemier	144.82	0.83	0.28
100	J. W. Weeks	50.00	0.14	0.05
101	Christina Fullenkamp	319.92	0.00	0.00
102	Dean Nelson	159.24	0.00	0.00
103	Lawrence Cusick	187.62	0.00	0.00
104	Paul Heine	24.95	0.00	0.00
105	Lavern Macy	102.38	0.00	0.00
106	Glen Cusick	280.60	0.00	0.00
107	Glen Cusick	20.89	0.00	0.00
108	John Lawrence Connolly	269.90	0.00	0.00
109	Lee & Inez Cusick	160.00	0.00	0.00
110	Christina Fullenkamp	154.46	0.57	0.19
111	Paul M. Heine	215.29	0.00	0.00
112	Lawrence Cusick et. ux.	58.00	0.00	0.00
113	Glen Cusick	183.50	0.00	0.00
114	Amanda Donnelly	70.00	0.00	0.00
CLAY COUNTY TOTAL			219.13	73.04

UNION COUNTY, SOUTH DAKOTA

Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
1	Donald & Helen Austin	68.75	0.46	0.15
2	Reynold Ballinger	168.35	0.85	0.28
3	Dan Stanley Estate	7.00	0.07	0.02
4	Ernest Cates	103.00	0.00	0.00
5	Colda Toller, Robert Carlson, Jack Carlson	20.00	0.00	0.00
6	Ernest Cates	5.00	0.00	0.00
7	Sheldon Reese	33.00	0.00	0.00
8	Edgar Wahlstrom ut. ux.	6.00	0.00	0.00
9	Stanis Chicoine et. al.	175.00	0.00	0.00
10	Amelia Kougel Olthoff	68.00	0.00	0.00
11	Gladys Kougel	108.31	0.00	0.00
12	Marvin Chicoine	108.36	0.44	0.15
13	Rozella Hinds	91.05	0.76	0.25
14	Lititia Geary	91.05	0.69	0.23
15	James A. Hanson	205.00	0.41	0.14
16	James A. Hanson	119.00	0.00	0.00
17	Duane Olsen & Edward McInerney	25.00	0.00	0.00
18	Lewis Weinberg	1.02	0.00	0.00
19	Edward McInerney	60.00	0.00	0.00
20	State of South Dakota	80.00	0.00	0.00
21	Elizabeth B. Koschine et. al.	40.00	0.00	0.00
22	Mabel & Cora Mewies	40.00	0.00	0.00
23	Mabel & Cora Mewies	79.45	0.00	0.00
24	Mabel & Cora Mewies	69.72	0.00	0.00
25	Helen Gorchow	125.80	0.00	0.00
26	City of Elk Point	NA	0.00	0.00
27	Peter & Agnes LaCroix	34.02	0.00	0.00
28	Edward W. Duling	20.20	0.00	0.00
29	State of South Dakota	80.00	0.00	0.00
30	Edward McInerney	80.00	0.00	0.00

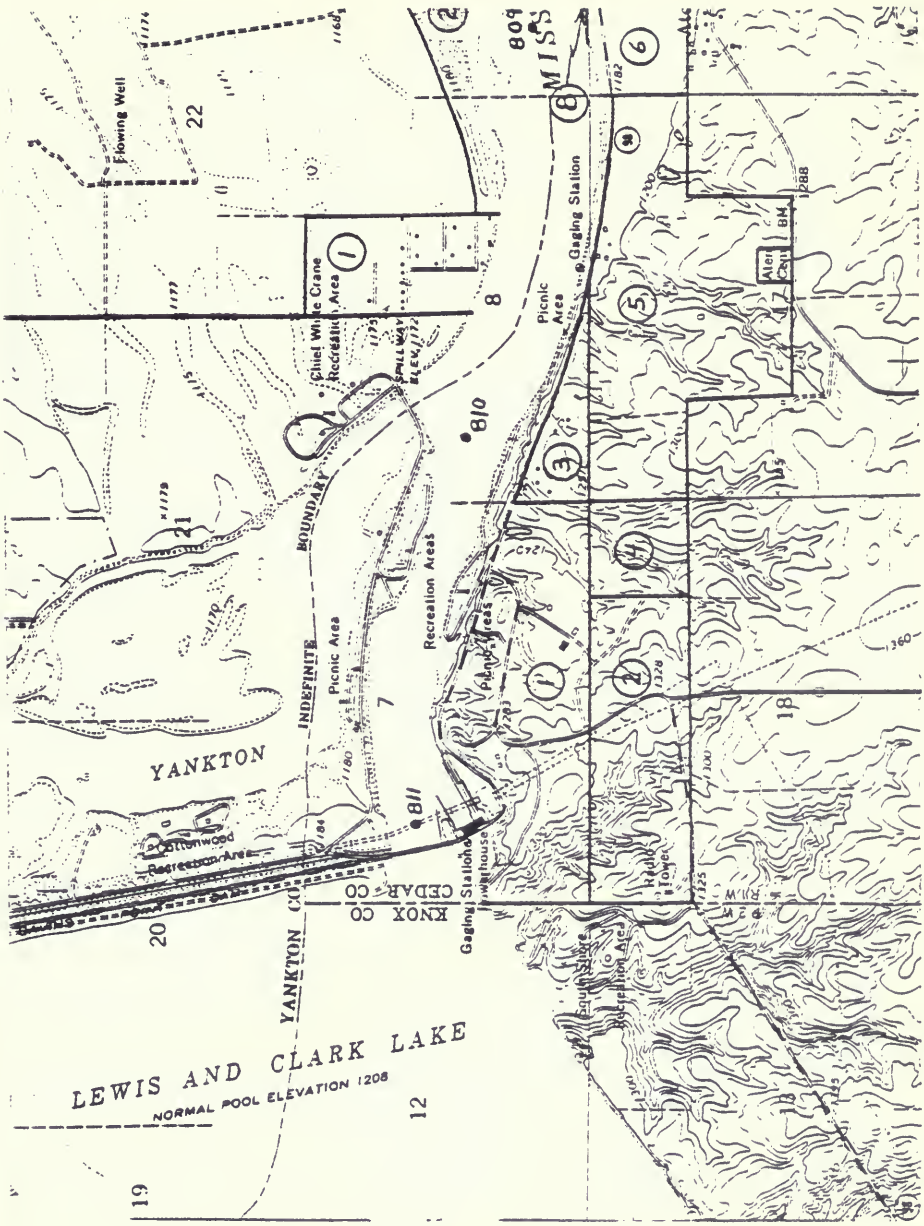
Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
31	John Bohan	11.00	0.00	0.00
32	Edward McInerney	20.00	0.00	0.00
33	Edward W. Duling	40.00	0.00	0.00
34	Ralph Rosenbaum & Louis Rosenbaum	39.80	0.00	0.00
35	Helen Grochow	80.00	0.00	0.00
36	Helen Gorchow	160.00	0.00	0.00
37	Clifford Trudo & Celia Alice Trudo	160.00	0.00	0.00
38	Ralph Rosenbaum & Louis Rosenbaum	39.93	0.00	0.00
39	Ralph Rosenbaum & Louis Rosenbaum	38.53	0.00	0.00
40	Ralph Rosenbaum & Louis Rosenbaum	39.84	0.00	0.00
41	Ralph Rosenbaum & Louis Rosenbaum	28.43	0.00	0.00
42	Clifford Trudo & Celia Alice Trudo	26.01	0.00	0.00
43	Clifford Trudo & Celia Alice Trudo	52.00	0.00	0.00
44	Clifford Trudo & Celia Alice Trudo	77.72	0.00	0.00
45	Lawrence Donnelly et. al.	78.00	0.00	0.00
46	Calvin Chausee	78.50	0.00	0.00
47	Willard Chaussee	291.00	0.00	0.00
48	Willard Chaussee	80.00	0.00	0.00
49	Willard Chaussee	80.00	0.00	0.00
50	Viryl Clifford et. al.	146.95	0.00	0.00
51	Viryl Clifford et. al.	80.00	0.00	0.00
52	Lewis Caton, Jr.	80.00	0.00	0.00
53	Helen Gorchow	738.00	0.00	0.00
54	Lewis Caton, Jr.	160.00	0.00	0.00
55	Marie B. Caton	234.00	0.00	0.00
56	Marie B. Caton	234.00	0.00	0.00
57	Floyd Davis	190.00	0.00	0.00
58	Floyd Davis	30.60	0.00	0.00
59	Marie B. Caton	80.00	0.00	0.00
60	Floyd Davis	80.00	0.00	0.00
61	Floyd Davis	29.00	0.00	0.00
62	Floyd Davis	28.50	0.00	0.00
63	Floyd Davis	160.00	0.00	0.00
64	Floyd Davis	160.00	0.00	0.00
65	Floyd Davis	80.00	0.00	0.00

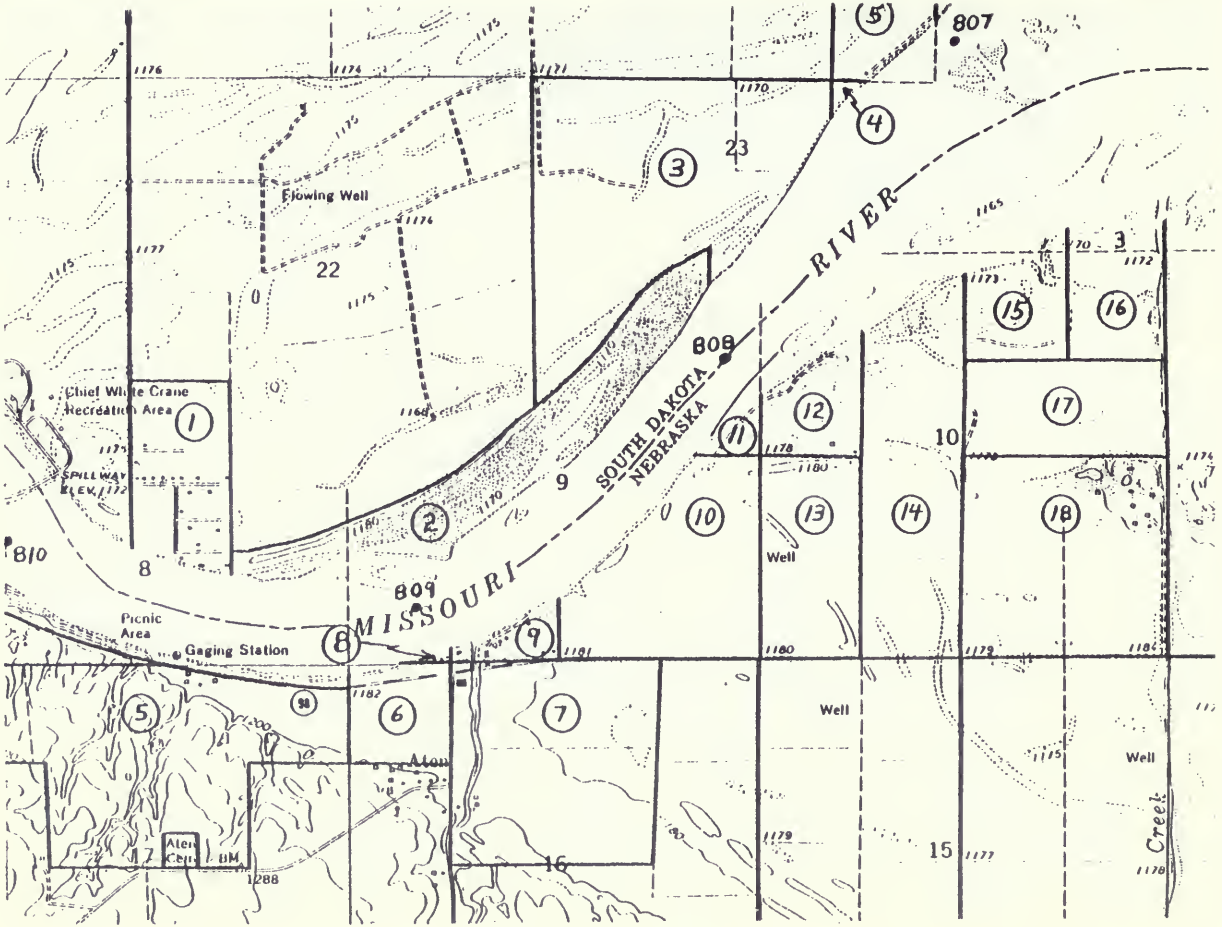
Parcel No.	Owner	Parcel Size Acres	Erosion Acres	Erosion Acres/Year
66	State of South Dakota	79.00	10.39	3.46
67	Missouri Valley Farms, Inc.	384.00	6.37	2.12
68	Lewis Caton, Jr.	94.00	0.00	0.00
69	Gratia E. Watanabe	70.00	0.00	0.00
70	John Bohan	90.00	0.00	0.00
71	Warren & June McGonnagle	160.21	0.00	0.00
72	Richard J. & George C. Donnelly	40.00	0.00	0.00
73	Warren & June McGonnagle	40.00	0.00	0.00
74	Warren & June McGonnagle	43.40	0.00	0.00
75	Richard J. & George C. Donnelly	43.30	0.00	0.00
76	James W.& Amanda Connelly Life Estate	71.00	0.00	0.00
UNION COUNTY TOTAL			20.44	6.81
TOTAL LEFT BANK			348.72	116.24
TOTAL BOTH BANKS			725.45	241.82

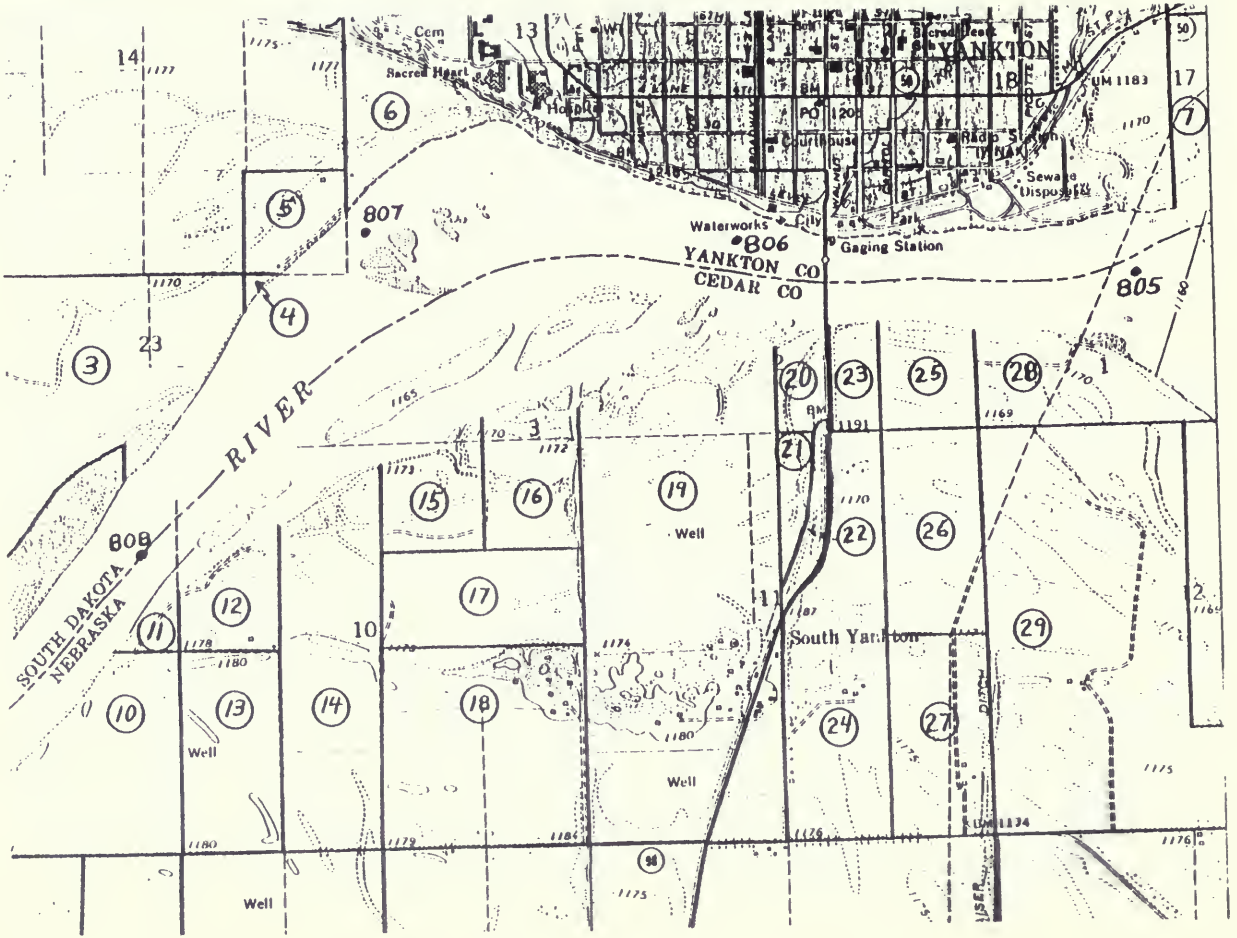
NA = Not Available

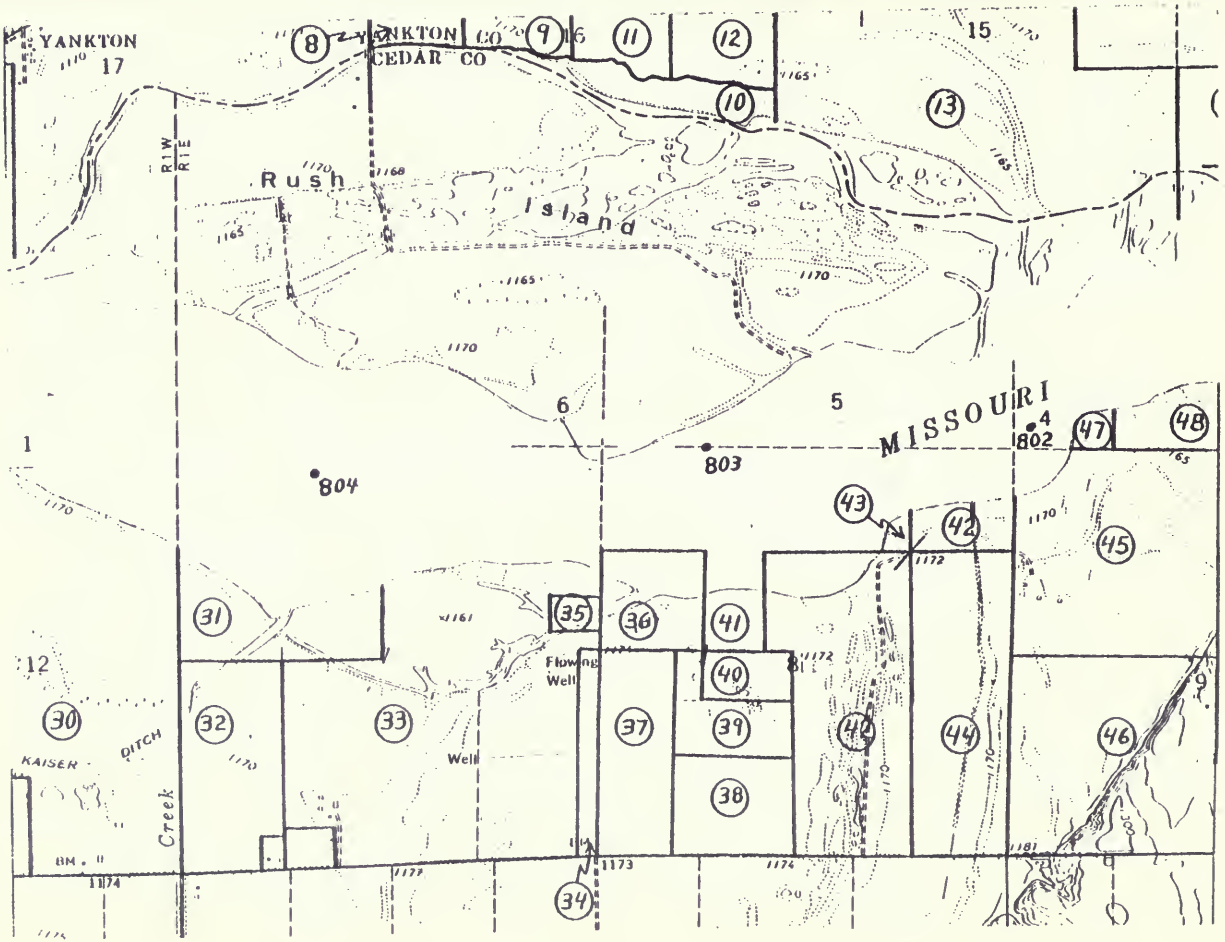
SECTION THREE

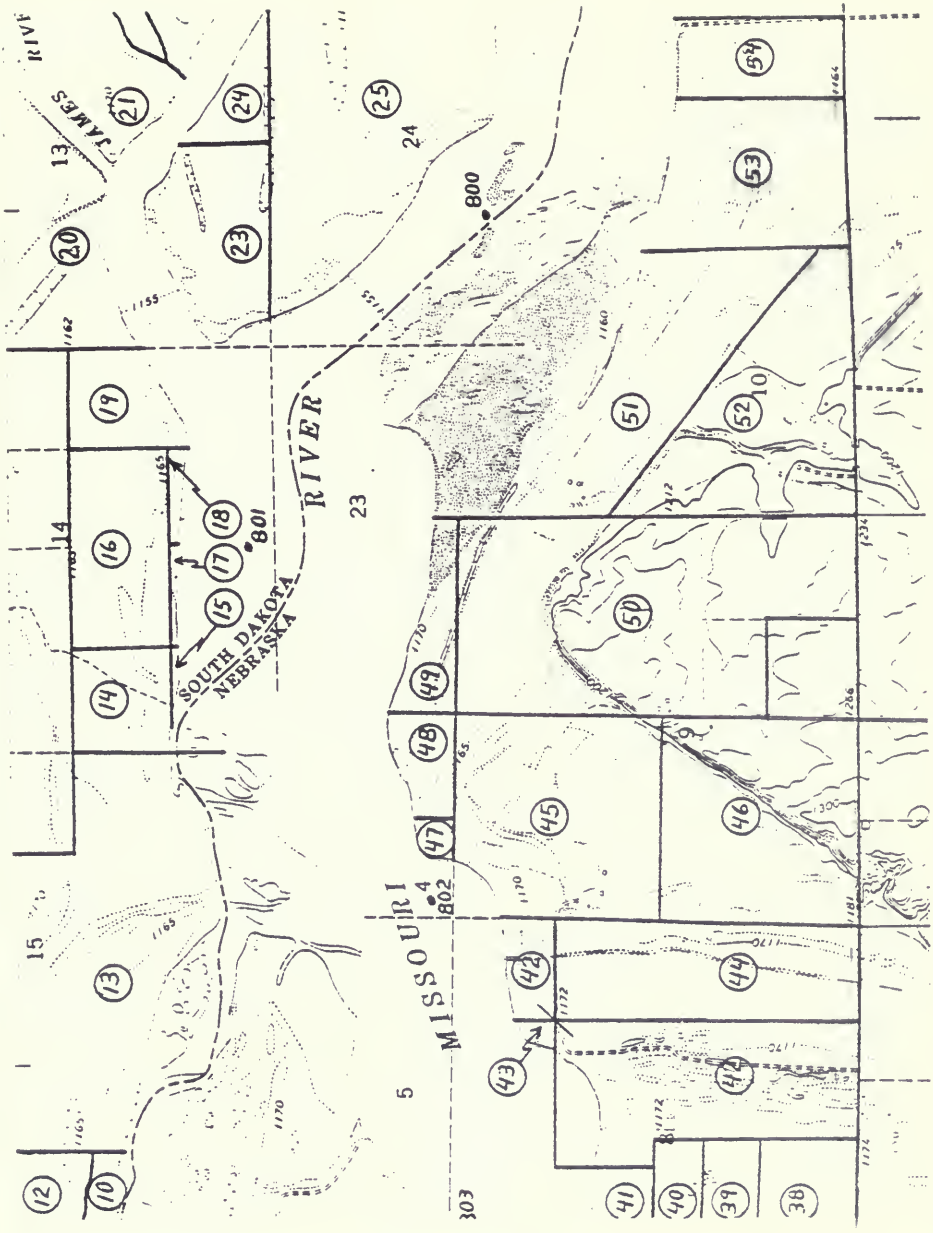
OWNERSHIP WORK MAPS

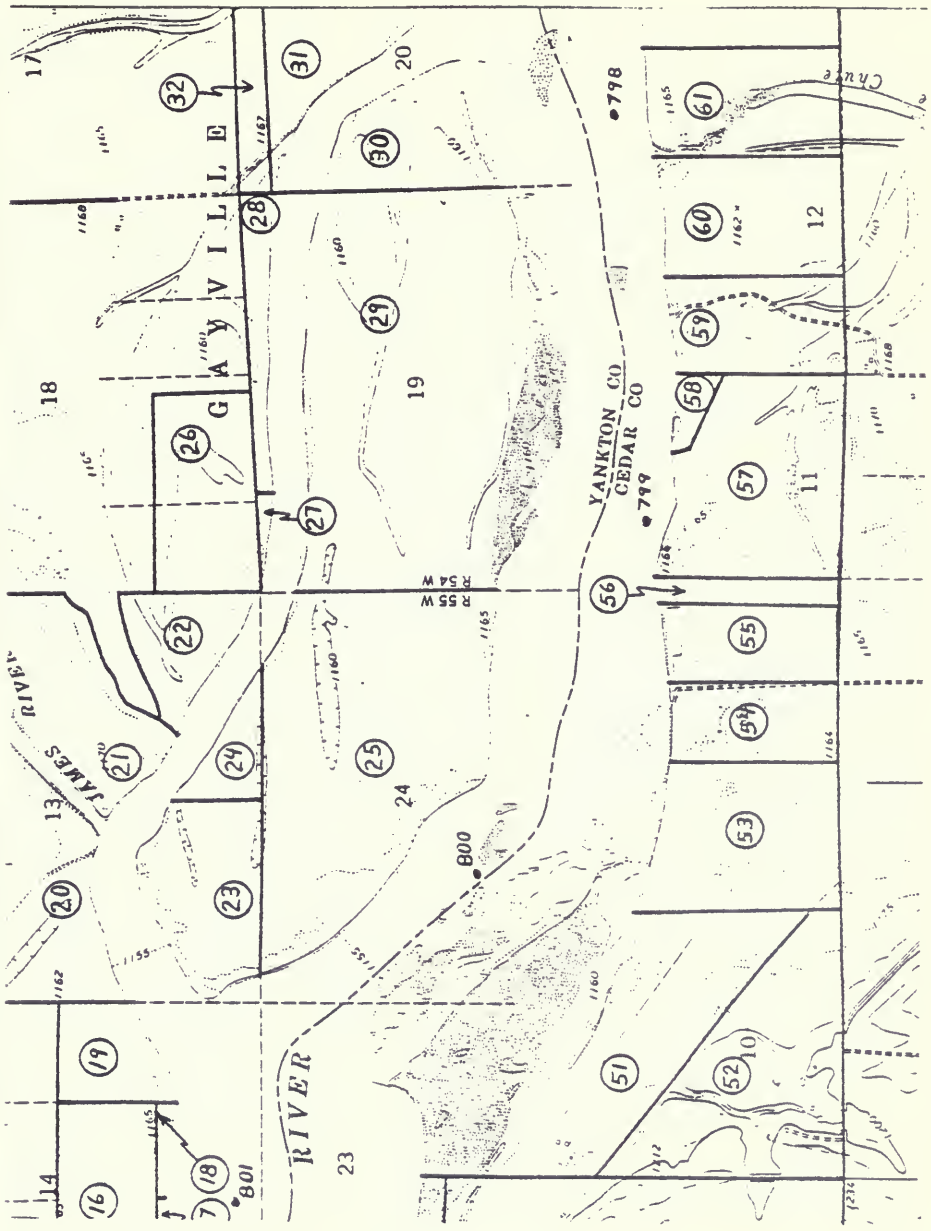

LEWIS AND CLARK LAKE
NORMAL POOL ELEVATION 1208
YANKTON
YANKTON CO
KNOX CO
CEDAR CO
INDEFINITE BOUNDARY
Flowing Well
Chief White Crane Recreation Area
Picnic Area
Recreation Areas
Gaging Station
Cottonwood Recreation Area
Gaging Station
Houseboat Mooring
Sanitary Station
Recreation Area
Alert Call
BM
SPILLWAY ELEV. 1212
MISS
809
810
811
22
21
20
19
18
12
8
7

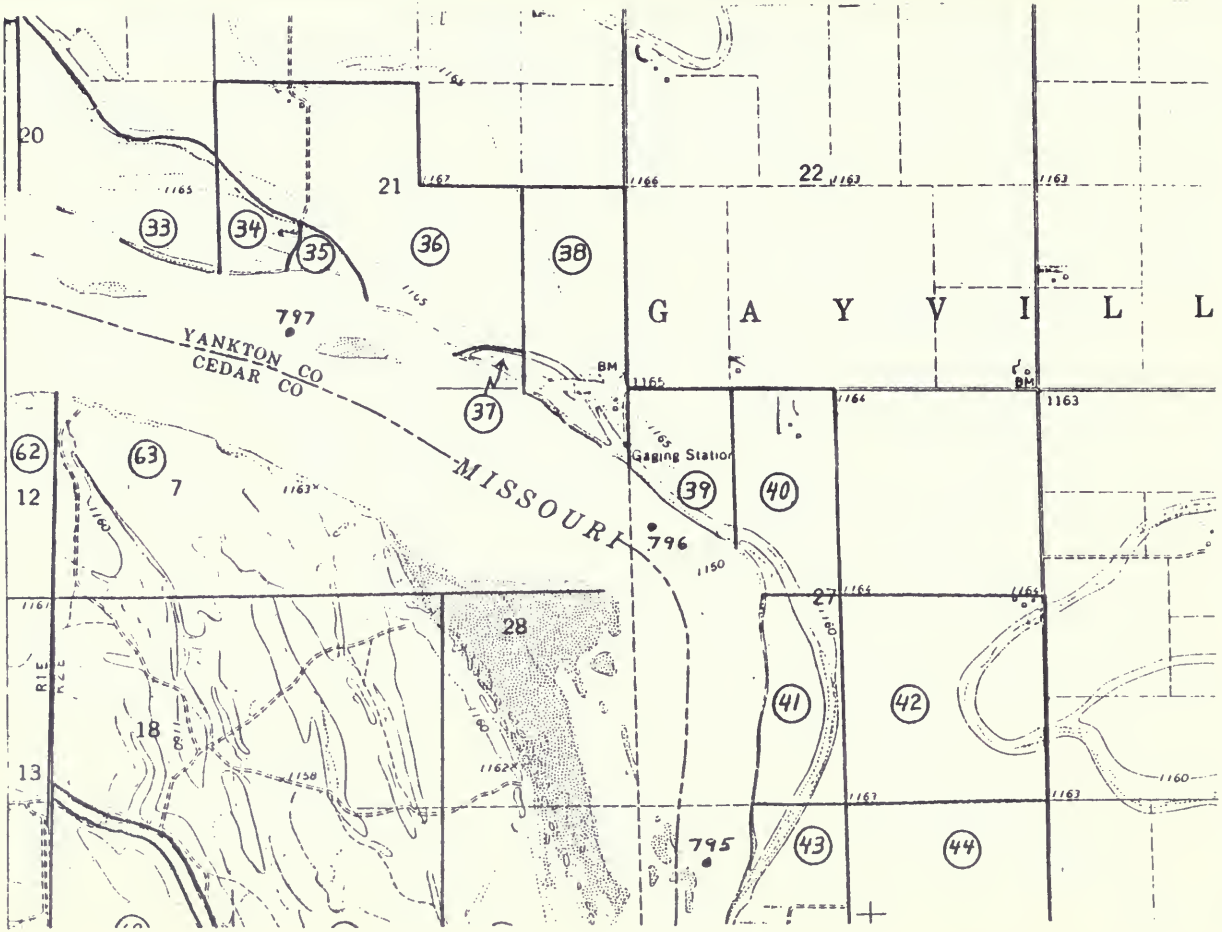

807
808
809
810
MISSOURI
RIVER
SOUTH DAKOTA
NEBRASKA
Flowing Well
Chief White Crane Recreation Area
SPILLWAY ELEV. 1172
Picnic Area
Gaging Station
Well
Well
Well
Creek
22
23
15
16
17
18
10
9
8
7
6
5
4
3
2
1
11
12
13
14
15
16

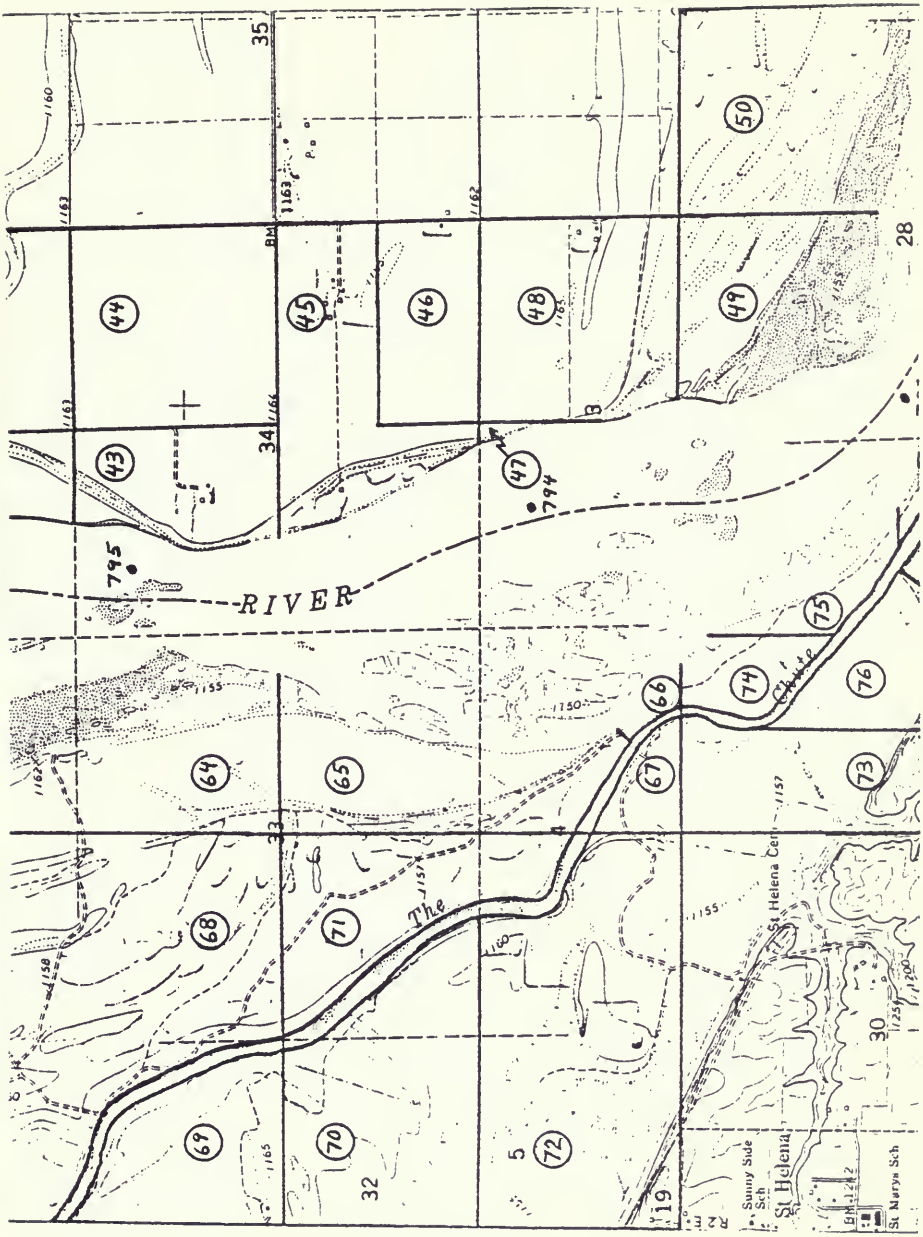

YANKTON
Cem
Sacred Heart
Hospital
Courthouse
PO
Sewage Disposal
Waterworks
Park
Gaging Station
807
806
805
808
YANKTON CO
CEDAR CO
RIVER
SOUTH DAKOTA
NEBRASKA
South Yankton
Well
Well
Well
Well

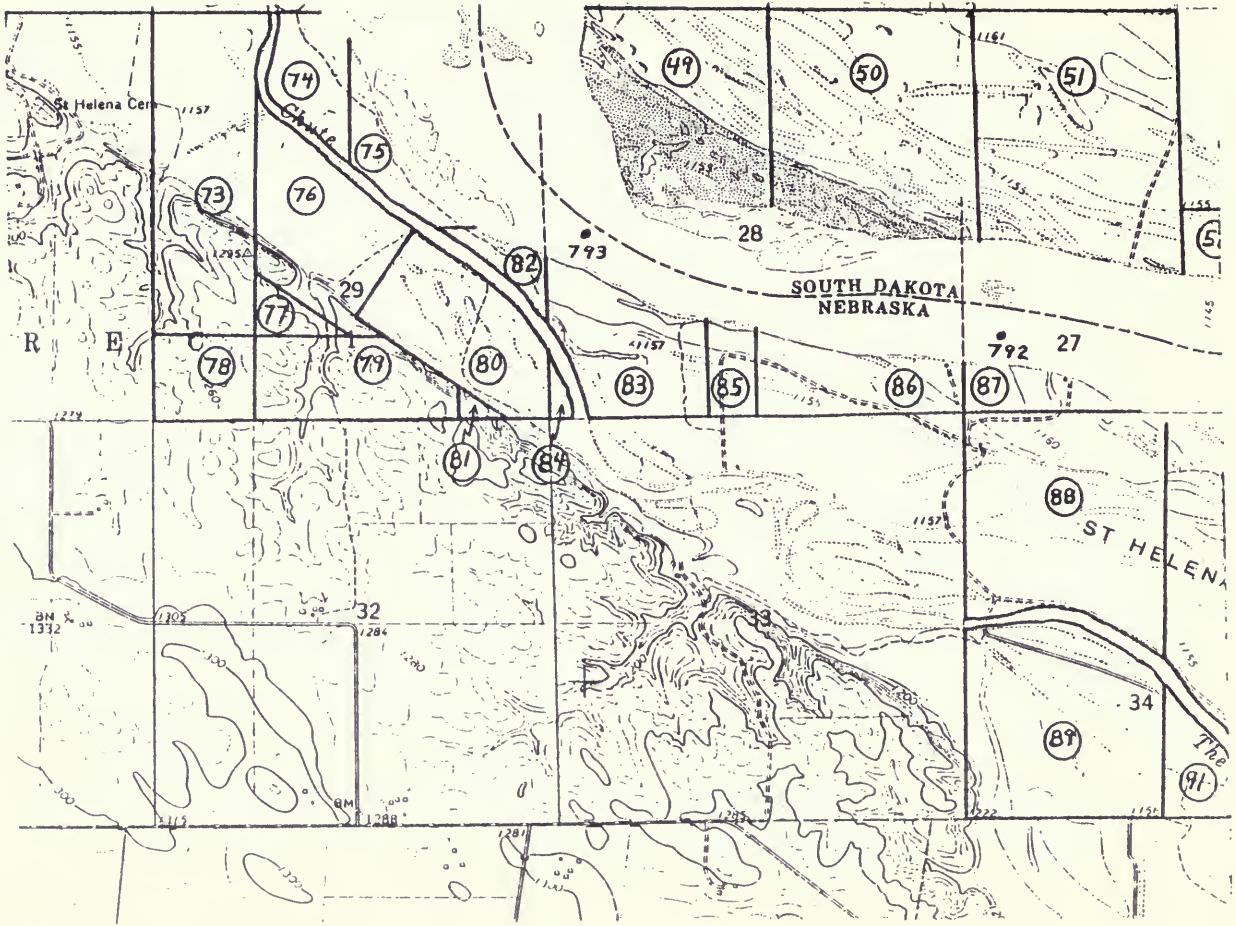

YANKTON
17
YANKTON CO
CEDAR CO
8
9
10
11
12
13
15
16
R1W
R1E
Rush
Island
1165
1168
1170
1172
1174
6
5
1
MISSOURI
803
804
802
4
47
48
43
42
45
31
35
36
41
40
39
38
37
32
33
30
44
46
34
12
Flowing Well
Well
KAISER DITCH
Creek
BM. 11
1174
1173
1177
1181

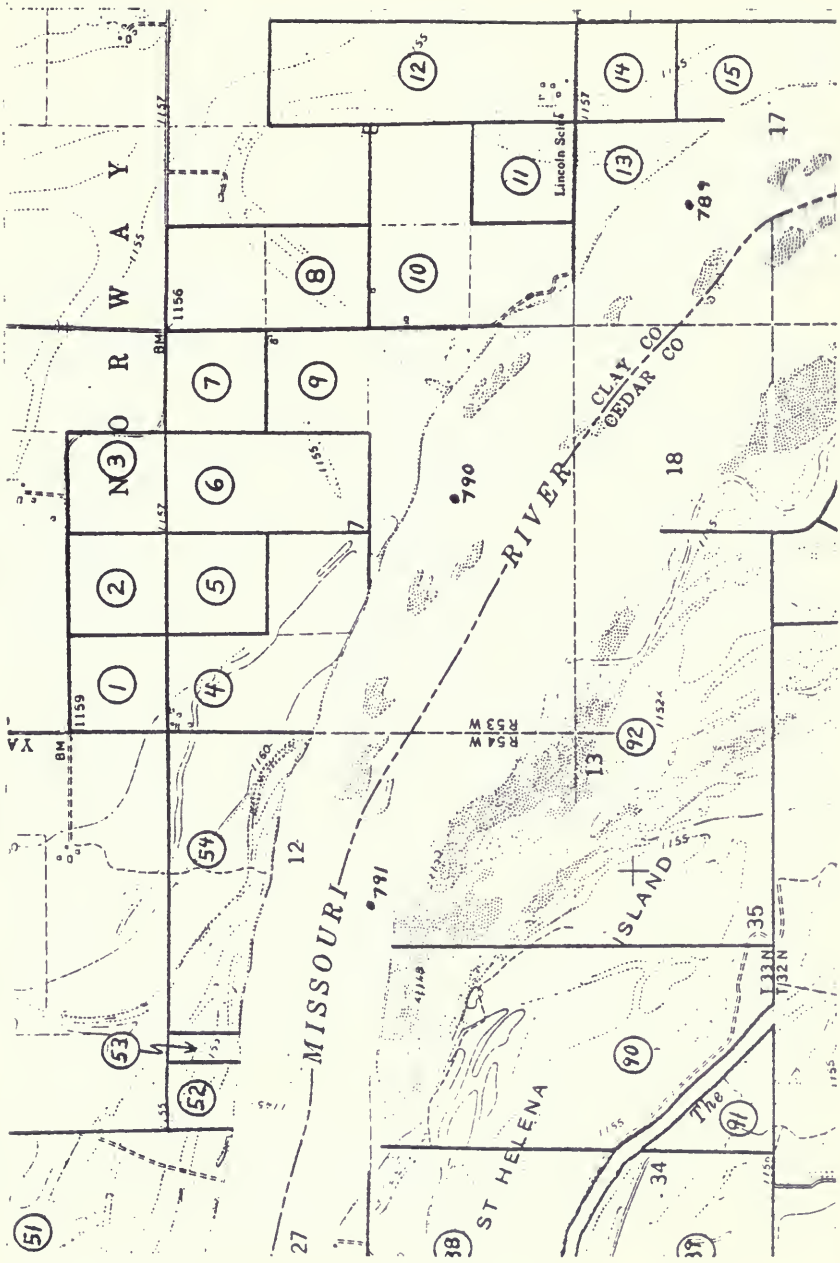

JAMES RIVER
MISSOURI RIVER
SOUTH DAKOTA
NEBRASKA
801
802
800
803
23
24
25
13
14
15
5
9
10

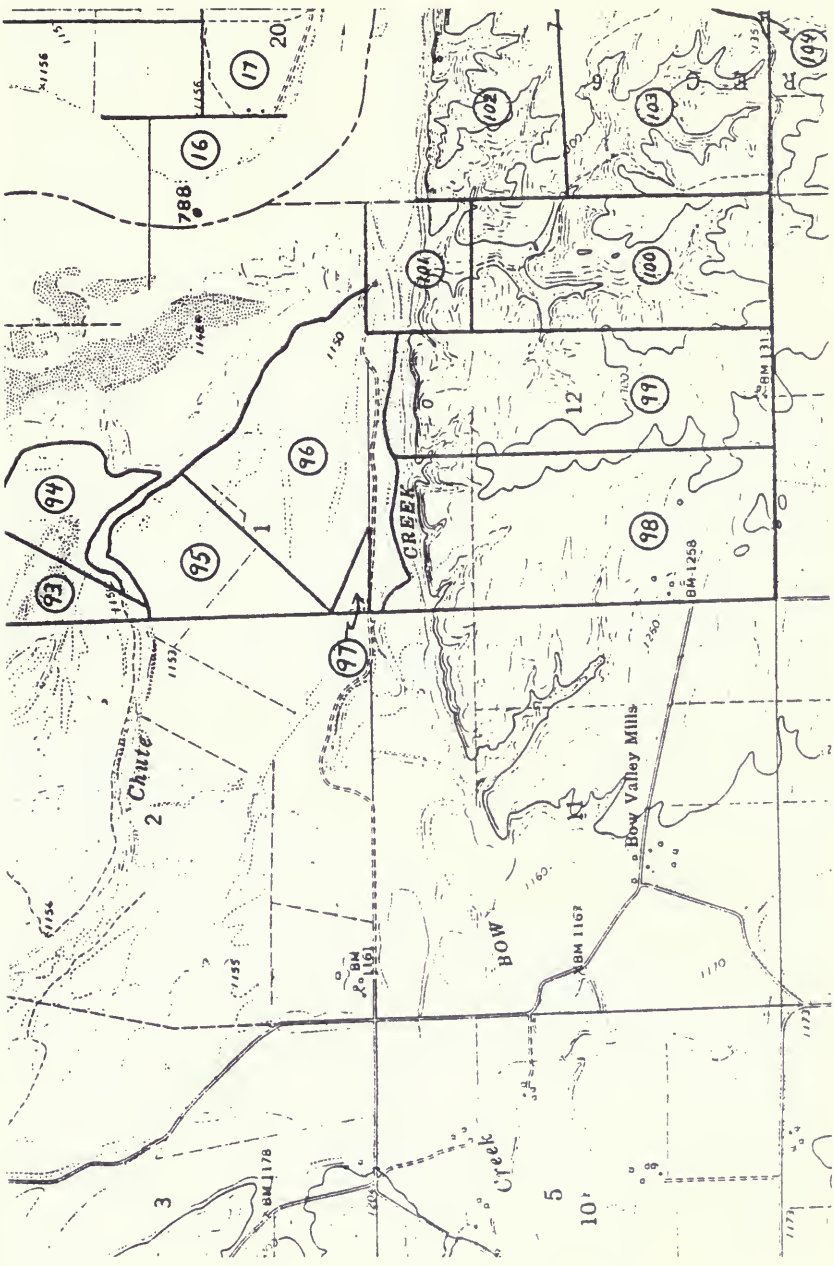

GAYVILLE
YANKTON CO
CEDAR CO
R 55 W
R 54 W
JAMES RIVER
RIVER
798
799
800
801
Chute

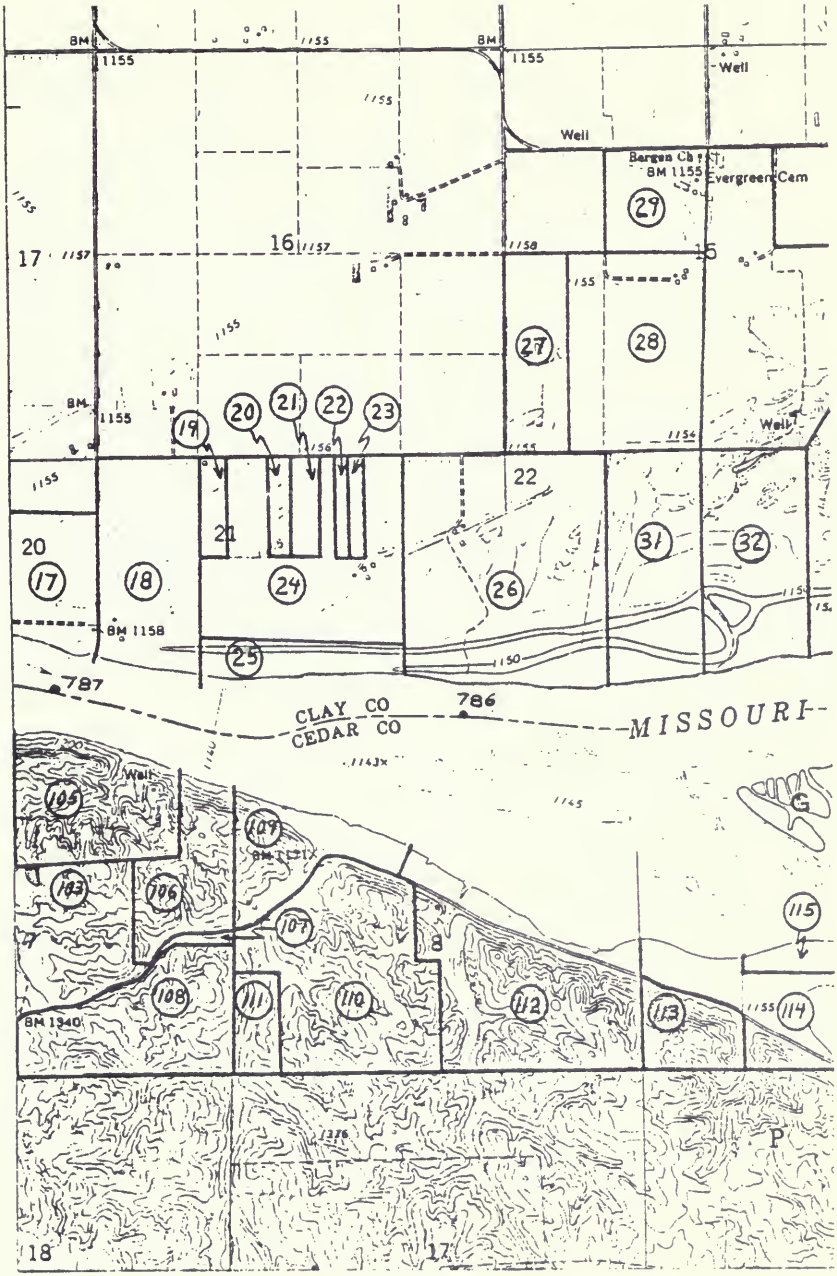

20
21
22
33
34
35
36
38
797
YANKTON CO
CEDAR CO
G A Y V I L L
BM
1165
1164
1163
37
Gaging Station
62
63
12
7
MISSOURI
39
40
796
1150
27
28
41
42
18
13
795
43
44
1160
1162
1158

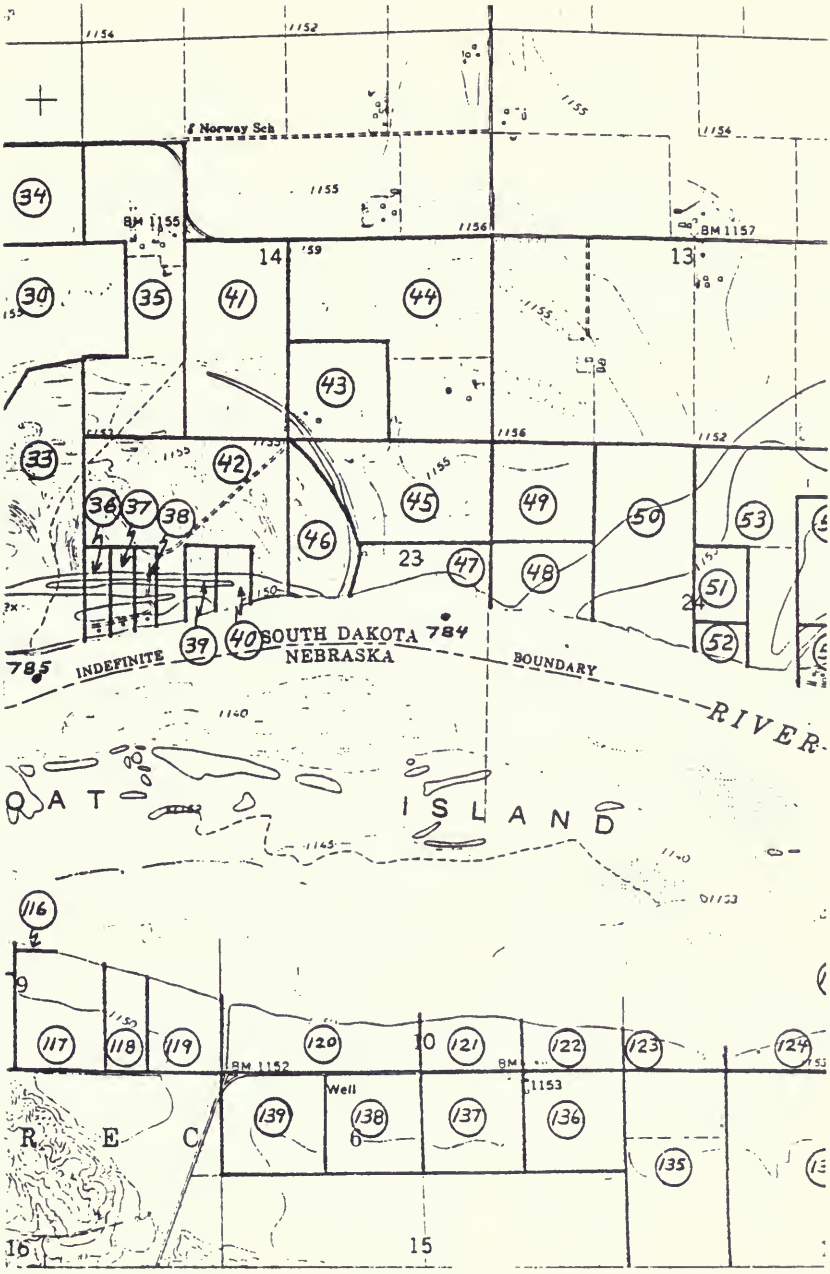

RIVER
795
794
St Helena
Sunny Side Sch
St Marys Sch
Cemetery
35
34
33
32
5
19
30
28
43
44
45
46
47
48
49
50
64
65
66
67
68
69
70
71
72
73
74
75
76

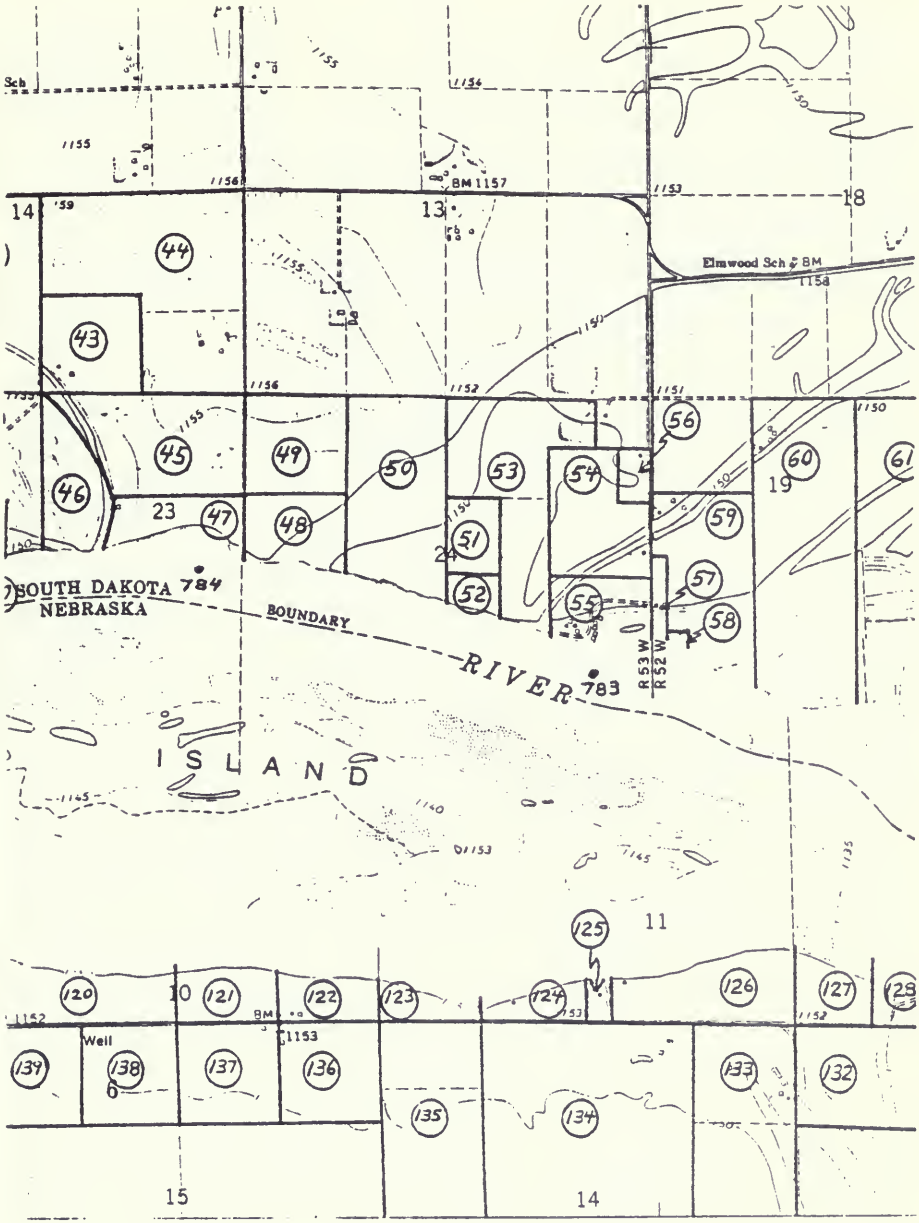

St Helena Cem
Chute
74
75
76
73
77
78
79
80
81
82
84
83
85
86
87
88
49
50
51
28
29
27
793
792
SOUTH DAKOTA
NEBRASKA
R E C
ST HELEN
32
33
34
BM
BM
1372
1288
1284
1281
1285
1222
1224
1155
1157
1161
1295
1305
1330
1320
1315
1288
1280

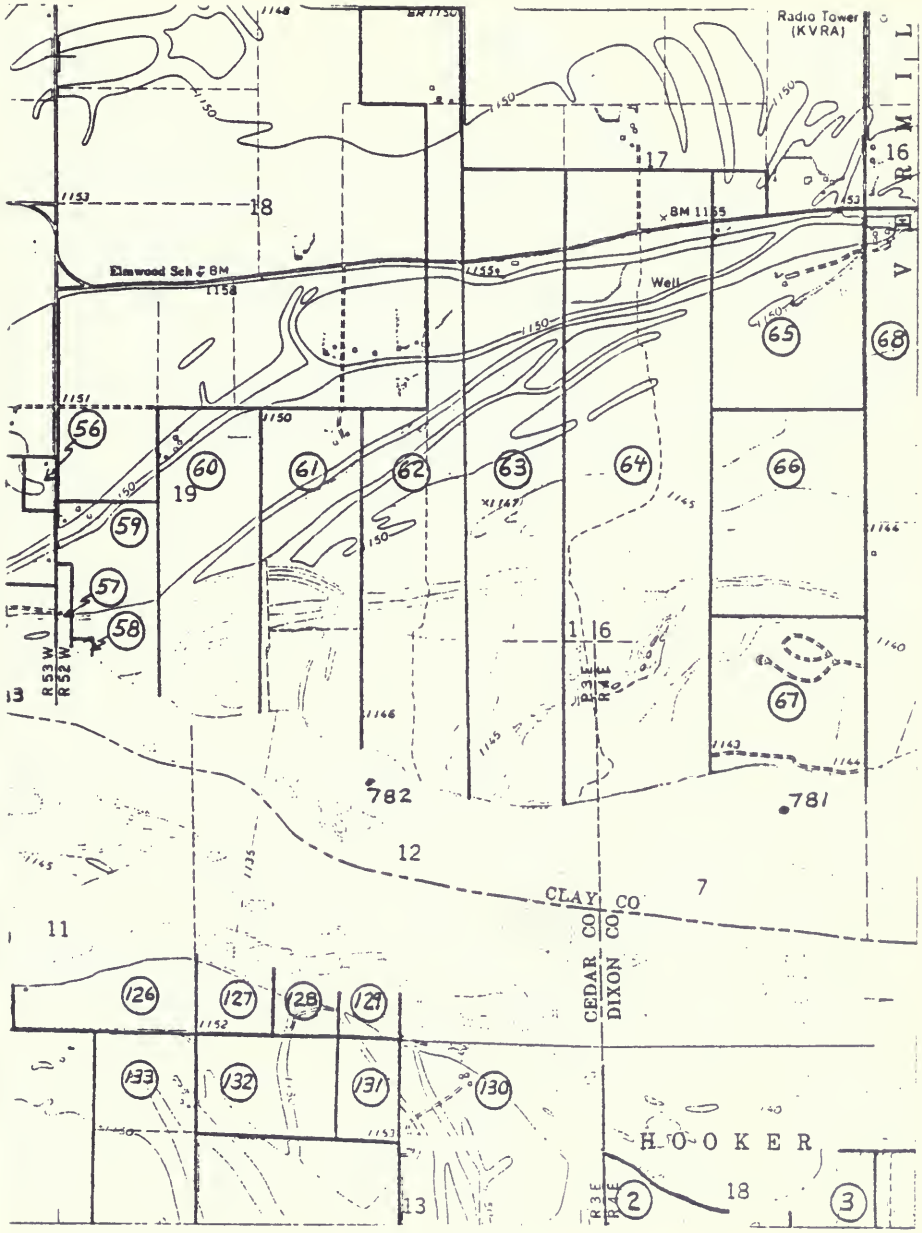

WAY
BM
1159
1157
1156
1155
1160
1149
1135
1324
1320
1321
1322
1323
1325
1326
1327
1328
1329
1330
1331
1332
1333
1334
1335
1336
1337
1338
1339
1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1350
1351
1352
1353
1354
1355
1356
1357
1358
1359
1360
1361
1362
1363
1364

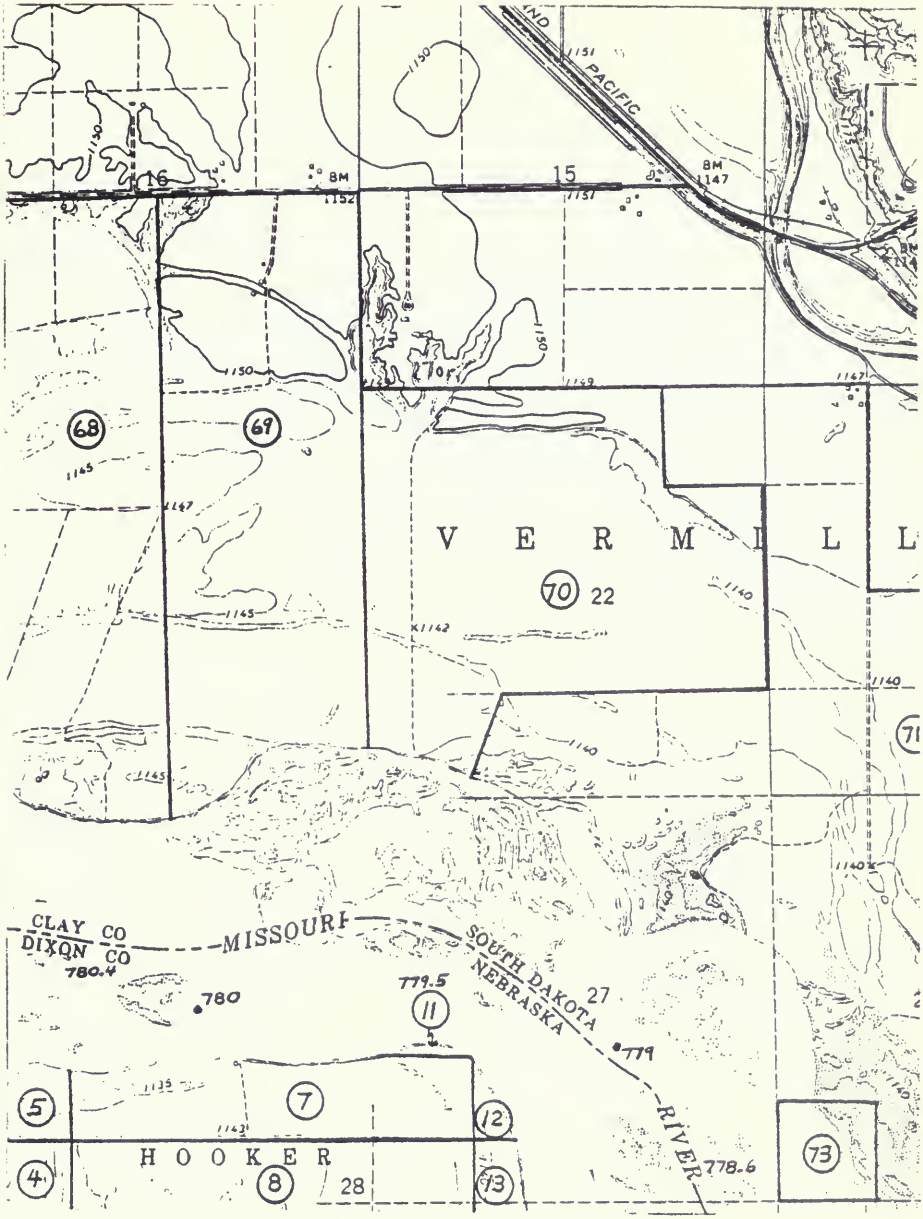

Chute
CREEK
BOW
Bow Valley Mills
BM 1258
BM 1178
BM 1161
BM 1167
788
Creek

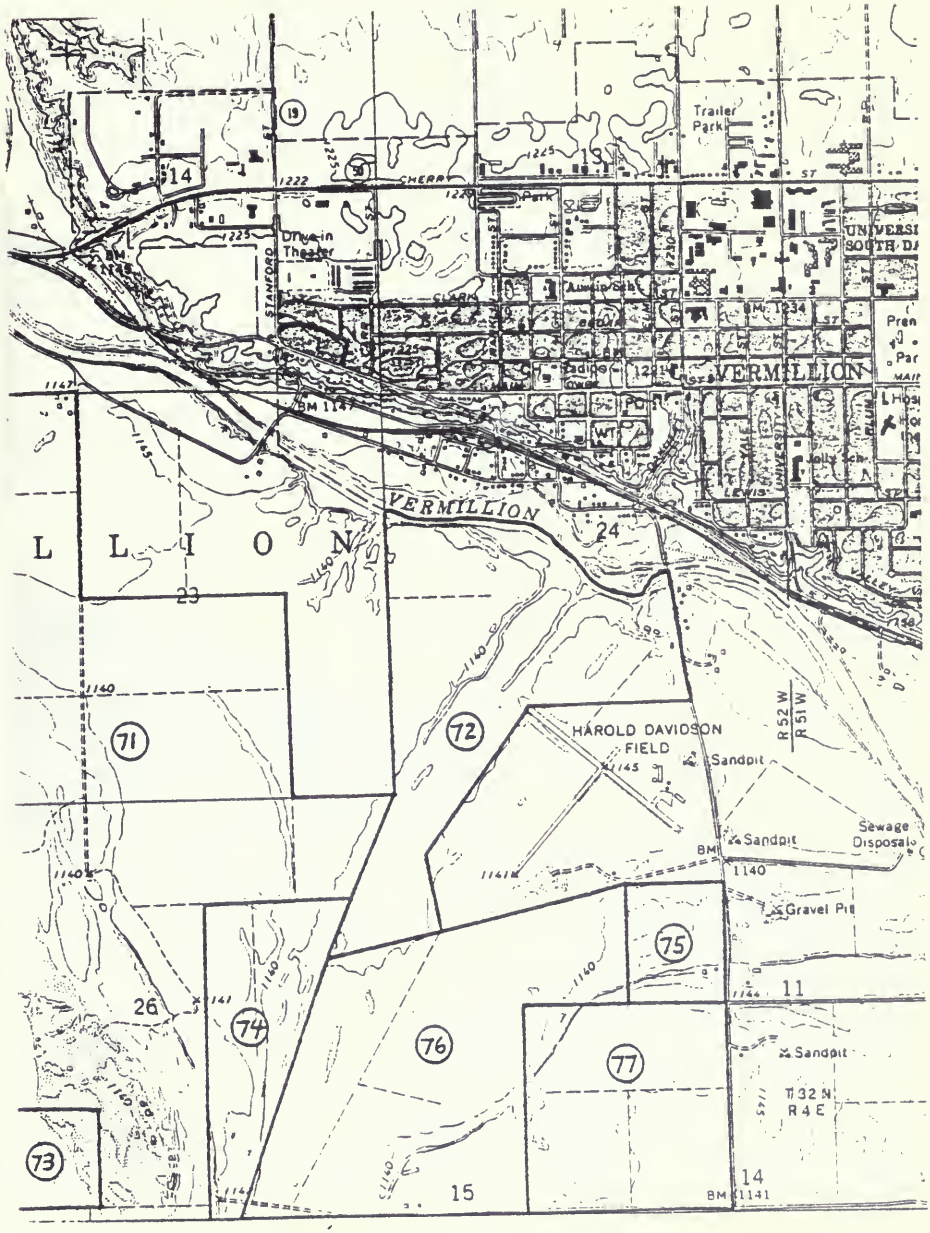

BM 1155
Well
Bergen Ch
BM 1155
Evergreen Cem
29
16
17
15
27
28
19
20
21
22
23
24
25
26
31
32
18
BM 1158
787
CLAY CO
CEDAR CO
786
MISSOURI
105
107
103
106
108
111
110
112
113
114
115
BM 1340
18
17

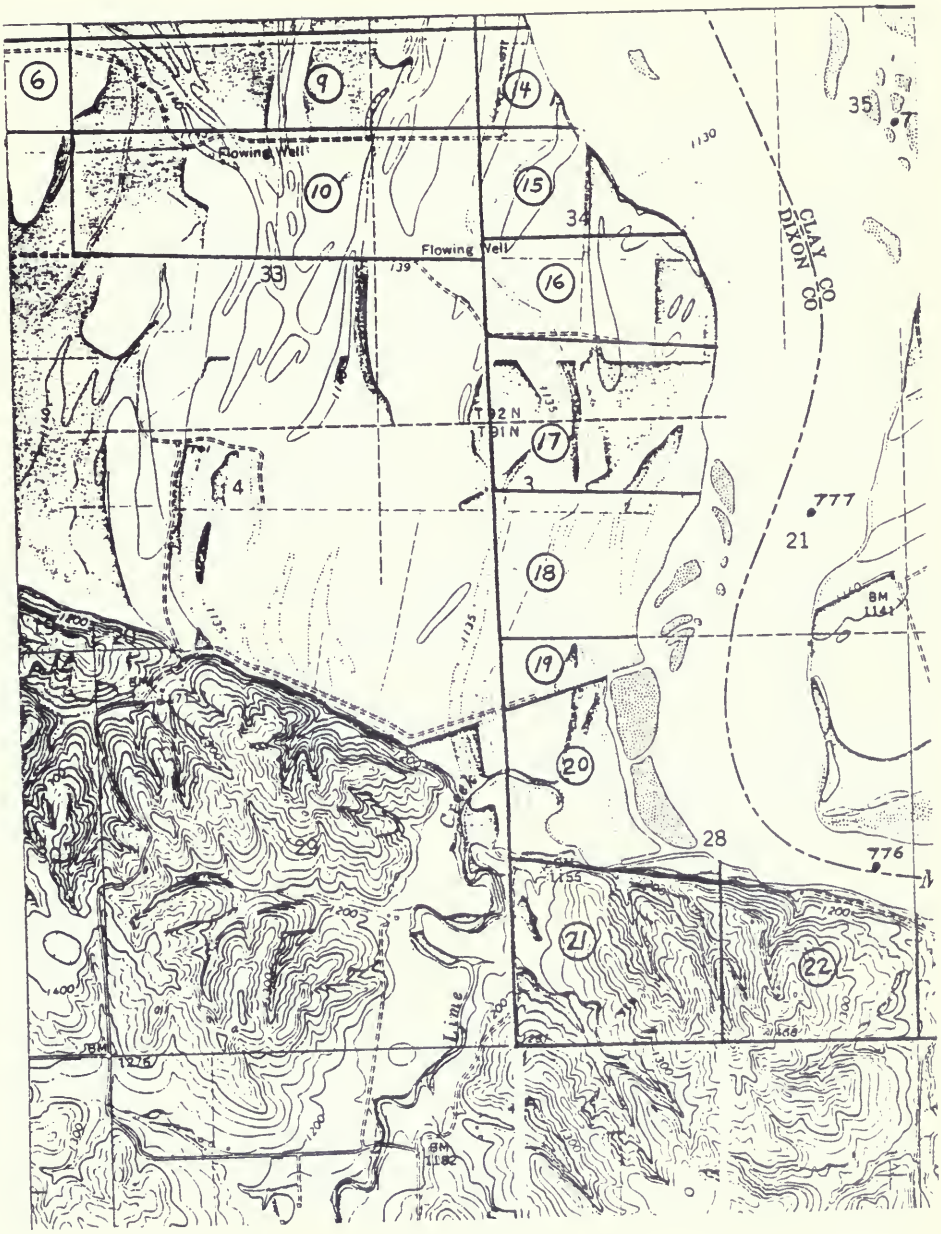

Norway Sch
BM 1155
BM 1157
14
13
23
24
SOUTH DAKOTA
NEBRASKA
INDEFINITE
BOUNDARY
RIVER
RAT ISLAND
BM 1152
BM 1153
Well
15
16
34
30
35
41
44
43
33
42
36
37
38
46
45
49
50
53
47
48
51
52
39
40
785
784
116
117
118
119
120
121
122
123
124
139
138
137
136
135

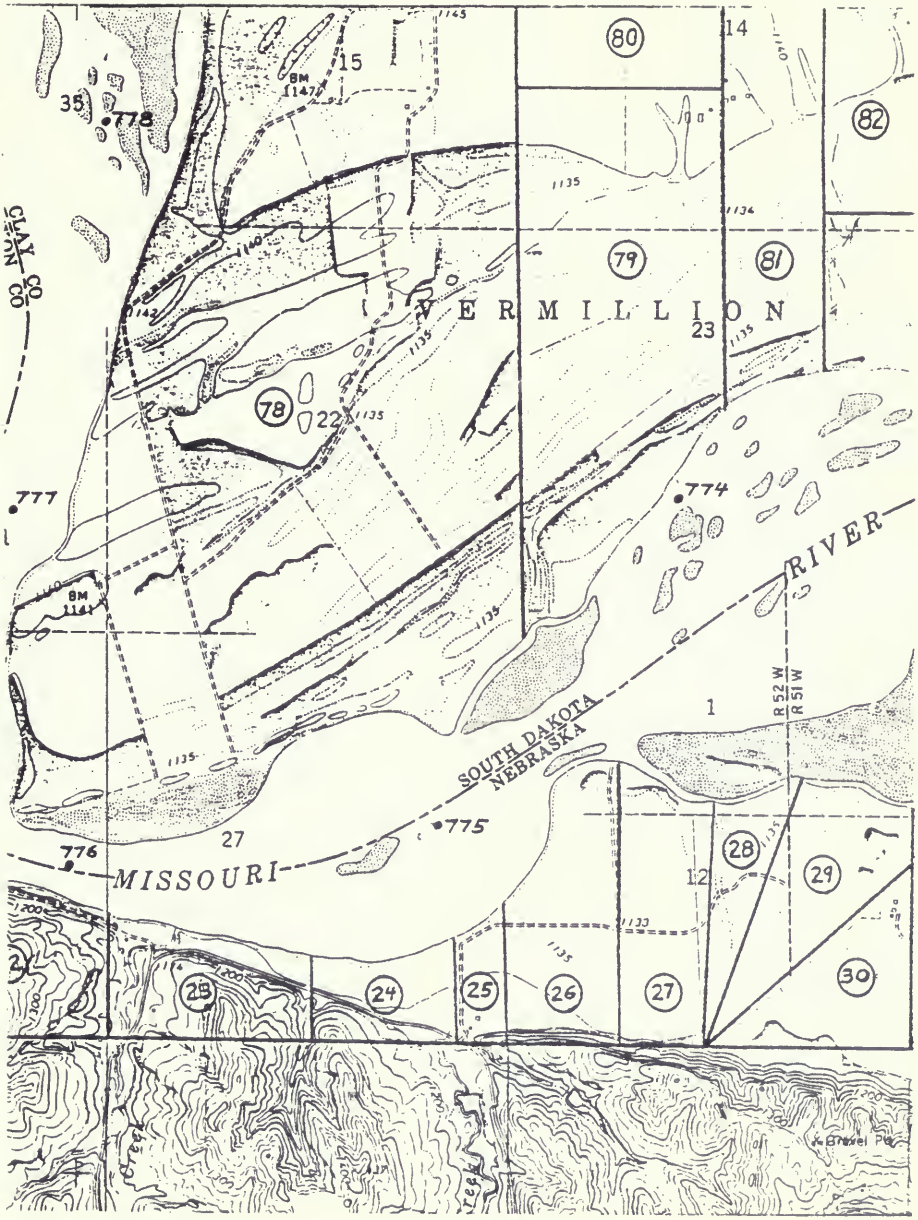

Sch
1155
1156
BM 1157
1154
1153
18
14
13
Elmwood Sch
BM
1154
44
43
1155
1156
1152
1151
1150
45
49
50
53
54
56
60
61
46
23
47
48
51
24
52
55
57
58
59
19
SOUTH DAKOTA
NEBRASKA
784
BOUNDARY
RIVER
783
R53W
R52W
ISLAND
1145
1140
1153
125
11
120
10
121
BM
122
123
124
126
127
128
1152
Well
1153
139
138
137
136
135
134
133
132
6
15
14

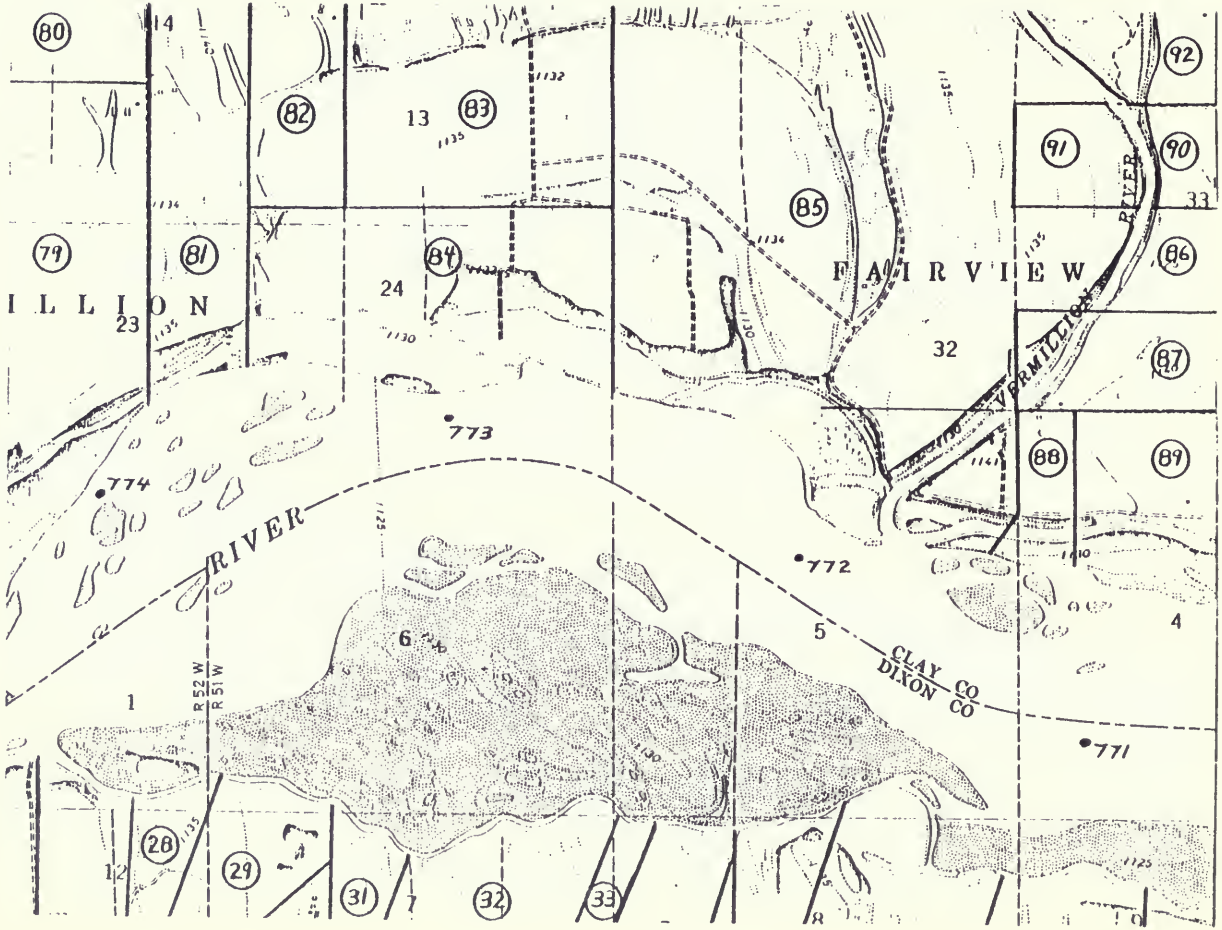

Radio Tower (KVRA)
BM 1155
Elmwood Sch
BM
Well
17
16
18
19
56
57
58
59
60
61
62
63
64
65
66
67
68
782
781
12
7
11
13
18
CLAY CO
CEDAR CO
DIXON CO
HOOKER
126
127
128
129
130
131
132
133
R53W
R52W
R3E
R4E

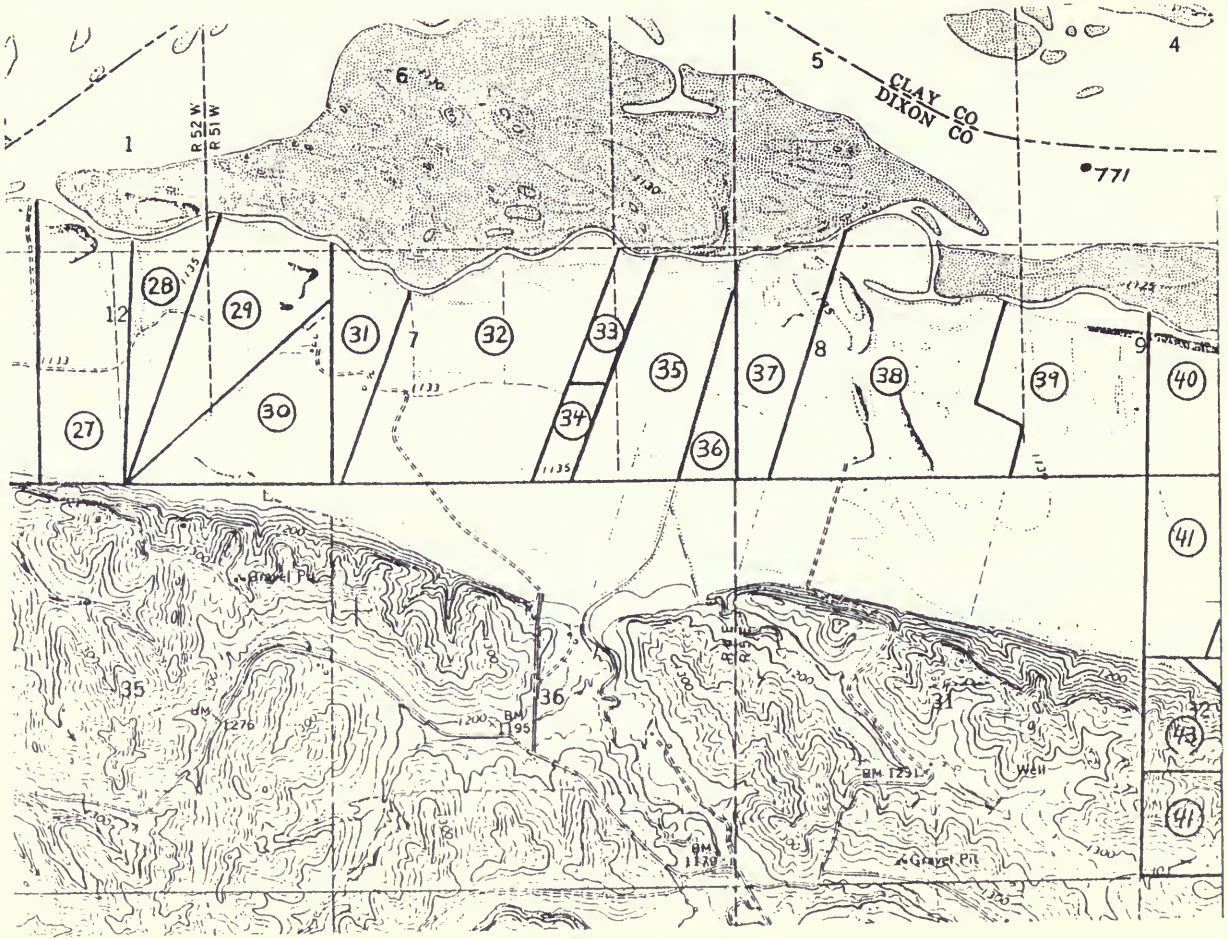

PACIFIC
16
15
8M
1152
8M
1147
1150
1151
1149
1147
68
69
1165
1147
V E R M I L L
70
22
1142
1140
1160
1165
71
CLAY CO
DIXON CO
MISSOURI
780.4
780
779.5
11
SOUTH DAKOTA
NEBRASKA
27
779
RIVER
778.6
5
7
12
1135
1143
H O O K E R
4
8
28
13
73

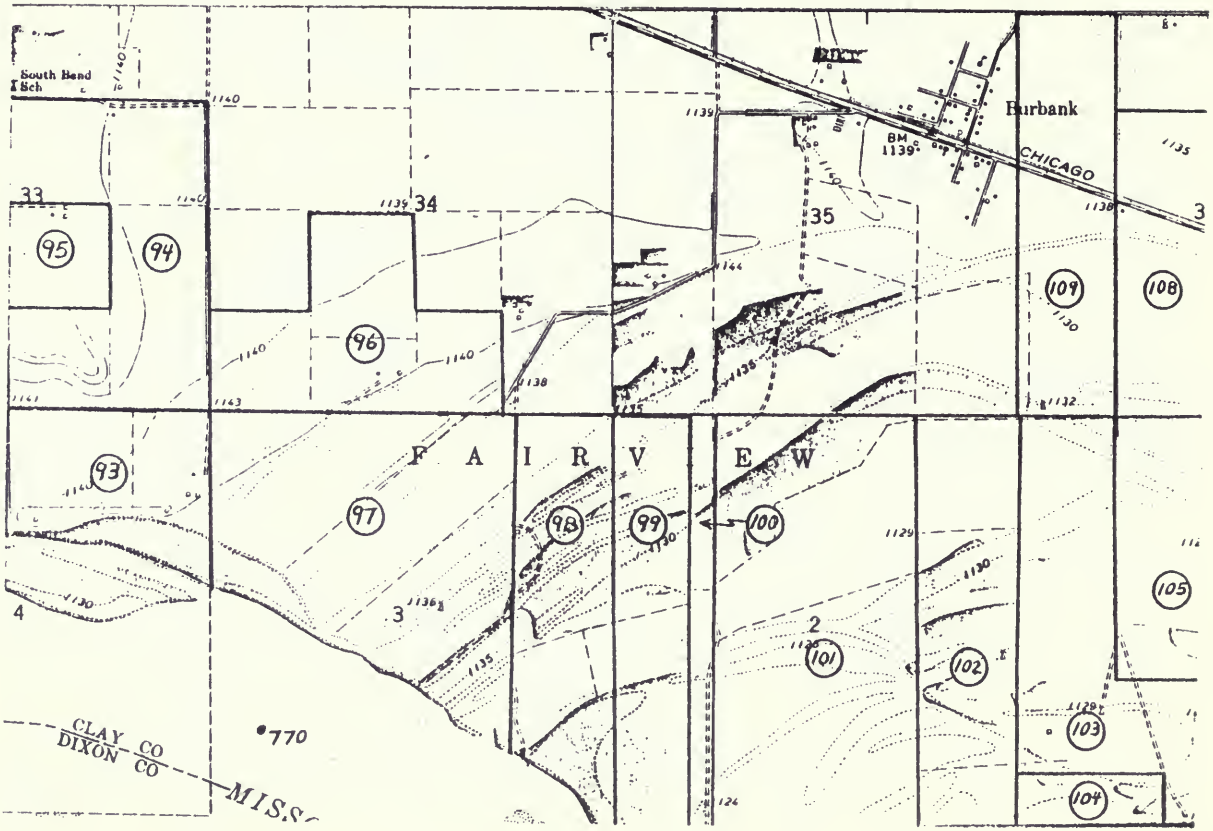

Trailer Park
Drive-in Theater
STANFORD
SHERRY
VERMILLION
VERMILLION
L L I O N
HAROLD DAVIDSON FIELD
Sandpit
Sandpit
Sewage Disposal
Gravel Pit
Sandpit
R 52 W
R 51 W
T 32 N
R 4 E
BM 1147
BM 1140
BM 1141
14
15
23
24
26
11
71
72
73
74
75
76
77

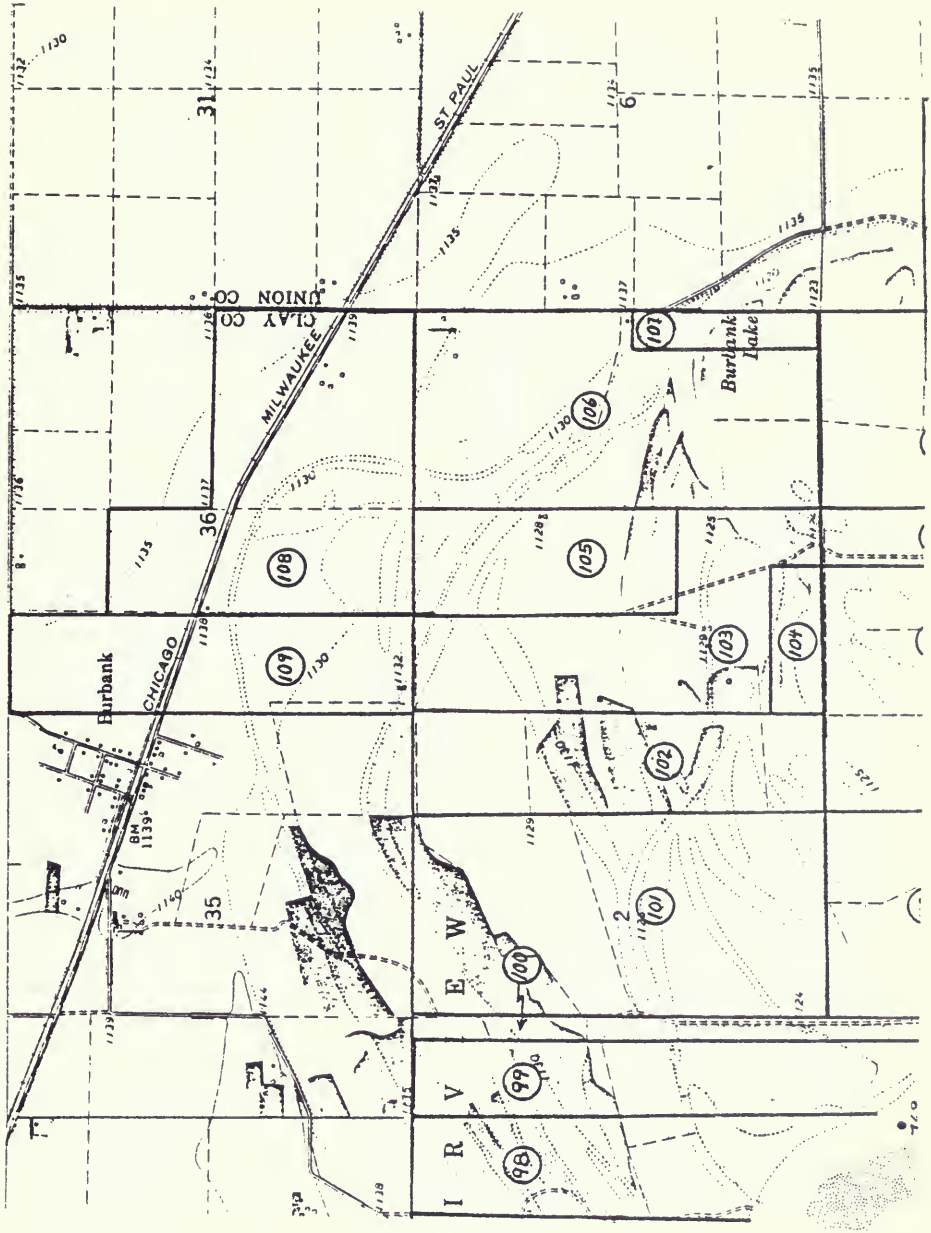

6
9
4
35
Flowing Well
10
15
34
Flowing Well
33
16
CLAY CO
DIXON CO
T 32 N
T 31 N
17
4
777
21
18
BM
19
20
28
776
Creek
21
22
Lime
BM
1276
BM
1182

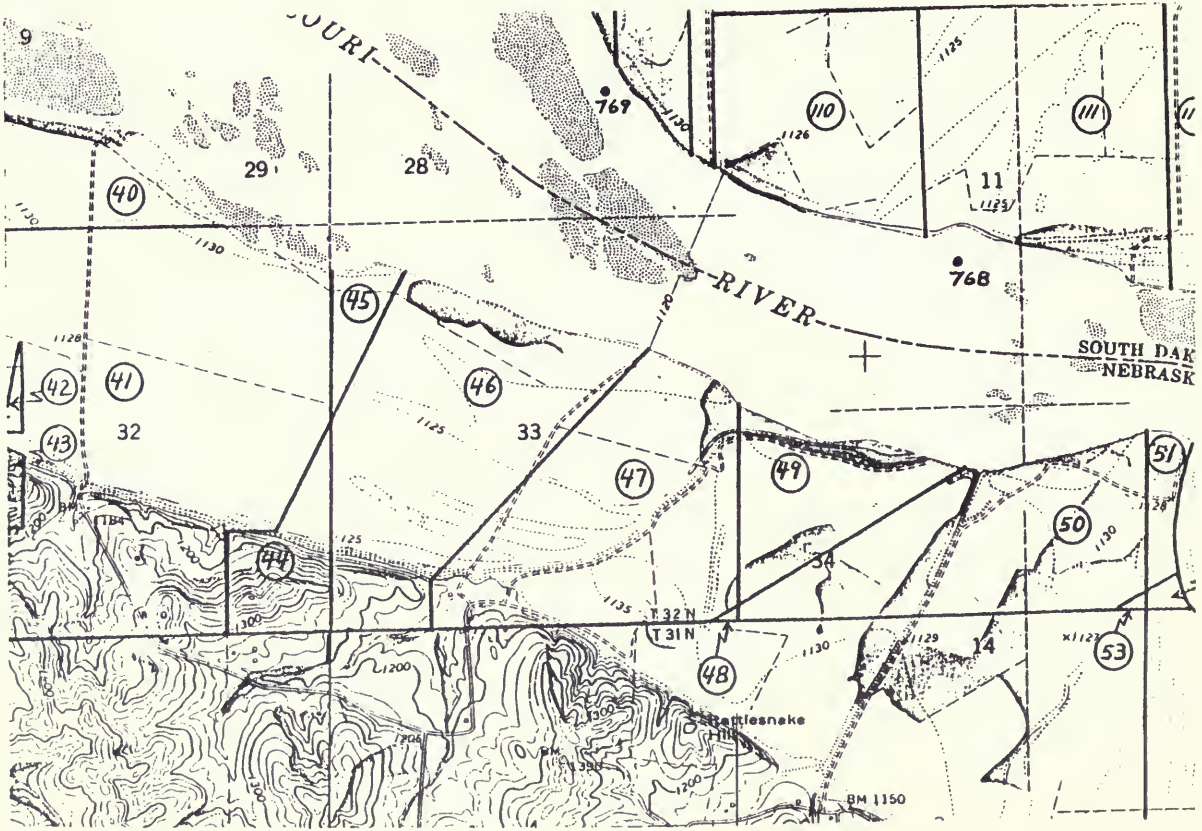

80
14
82
15
BM
1147
35
778
CLAY CO
79
81
VERMILLION
23
78
22
777
774
BM
1141
RIVER
R 52 W
R 51 W
1
SOUTH DAKOTA
NEBRASKA
27
775
776
MISSOURI
12
28
29
30
24
25
26
27
28

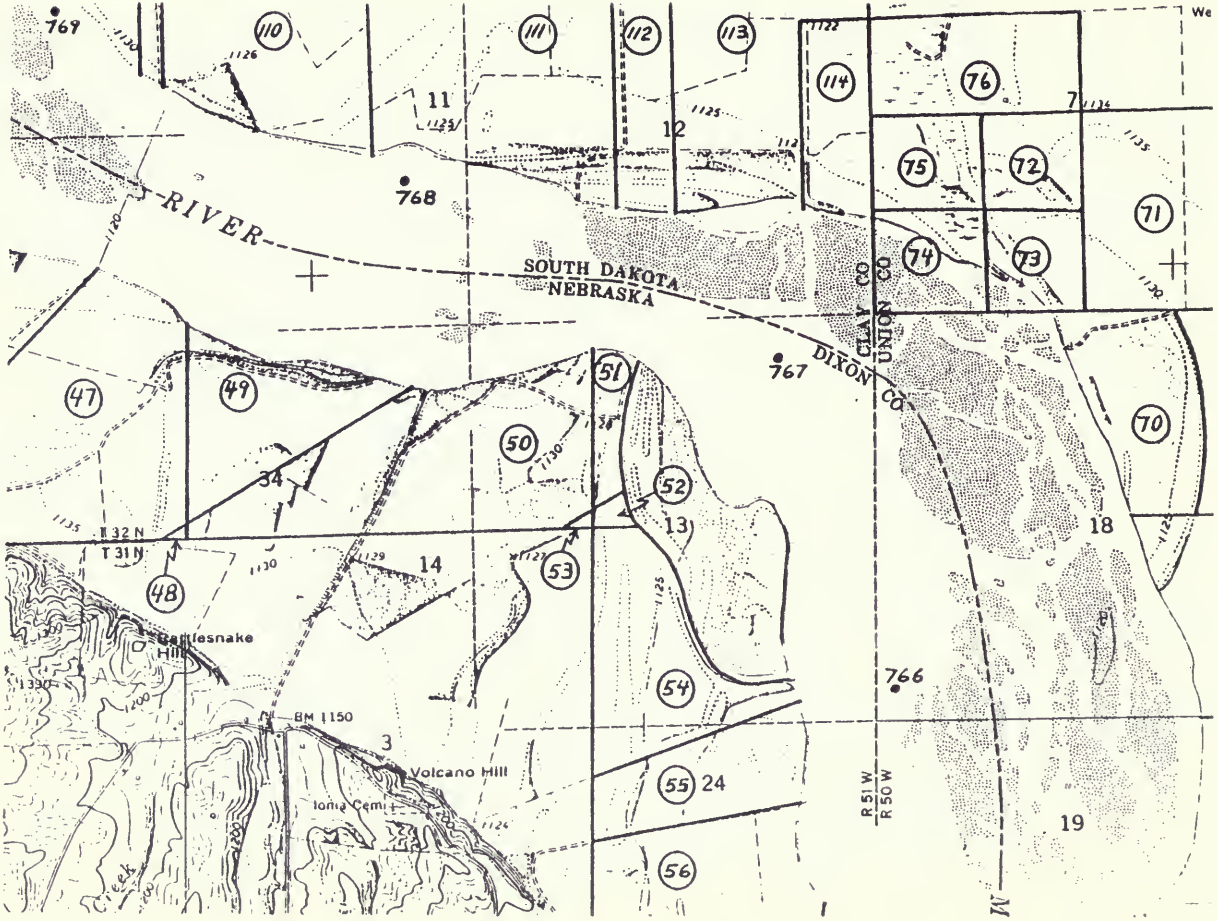

80
14
82
13
83
92
91
90
33
85
79
81
84
24
23
FAIRVIEW
VERMILION RIVER
86
32
87
773
774
88
89
RIVER
772
6
5
4
CLAY CO
DIXON CO
1
R 52 W
R 51 W
771
28
29
31
32
33


CLAY CO
DIXON CO
R 52 W
R 51 W
R 5 E
R 6 E
771
Gravel Pit
Well
BM 1276
BM 1195
BM 1179
BM 1170

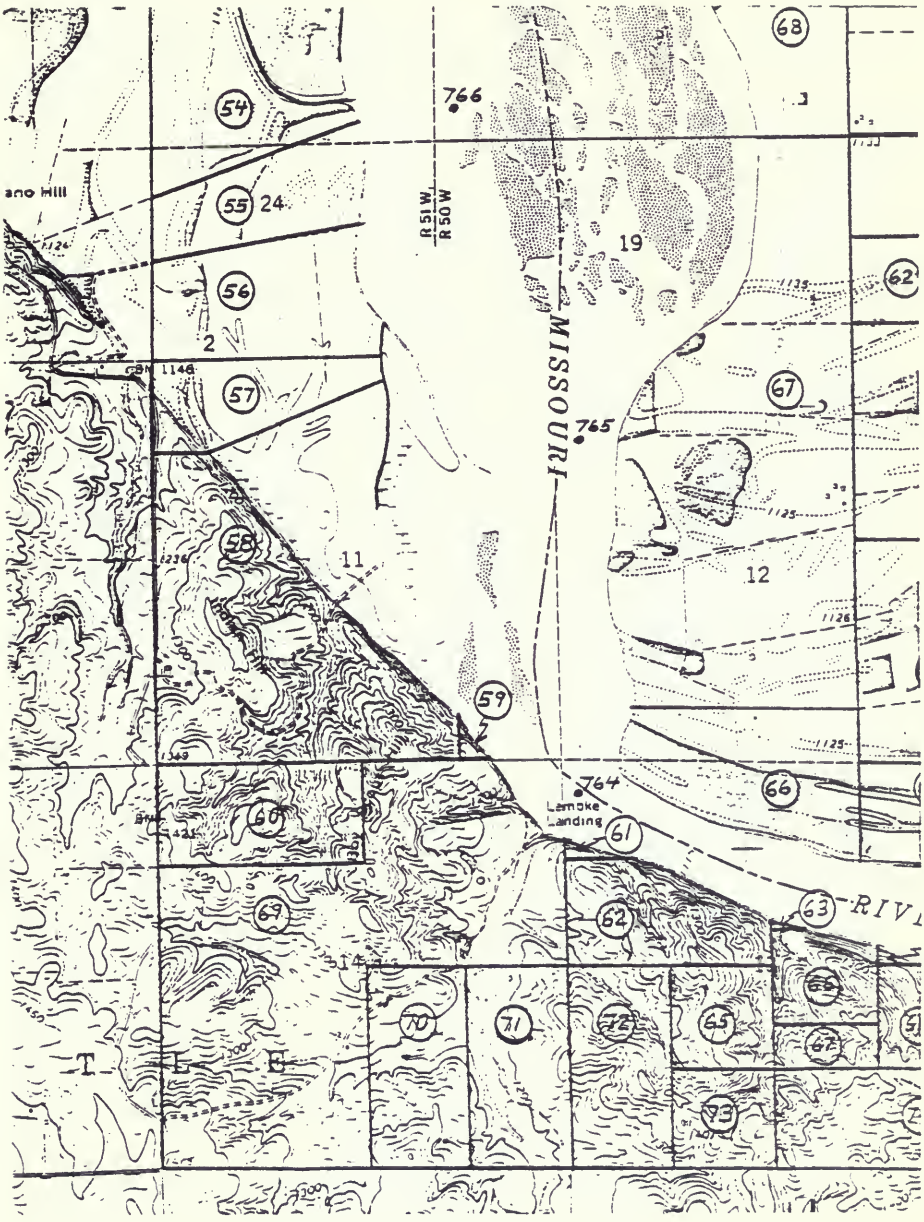

South Bend
Burbank
BM
1139
CHICAGO
33
34
35
95
94
96
109
108
93
97
98
99
100
F A I R V E W
105
101
102
103
104
4
3
2
CLAY CO
DIXON CO
770

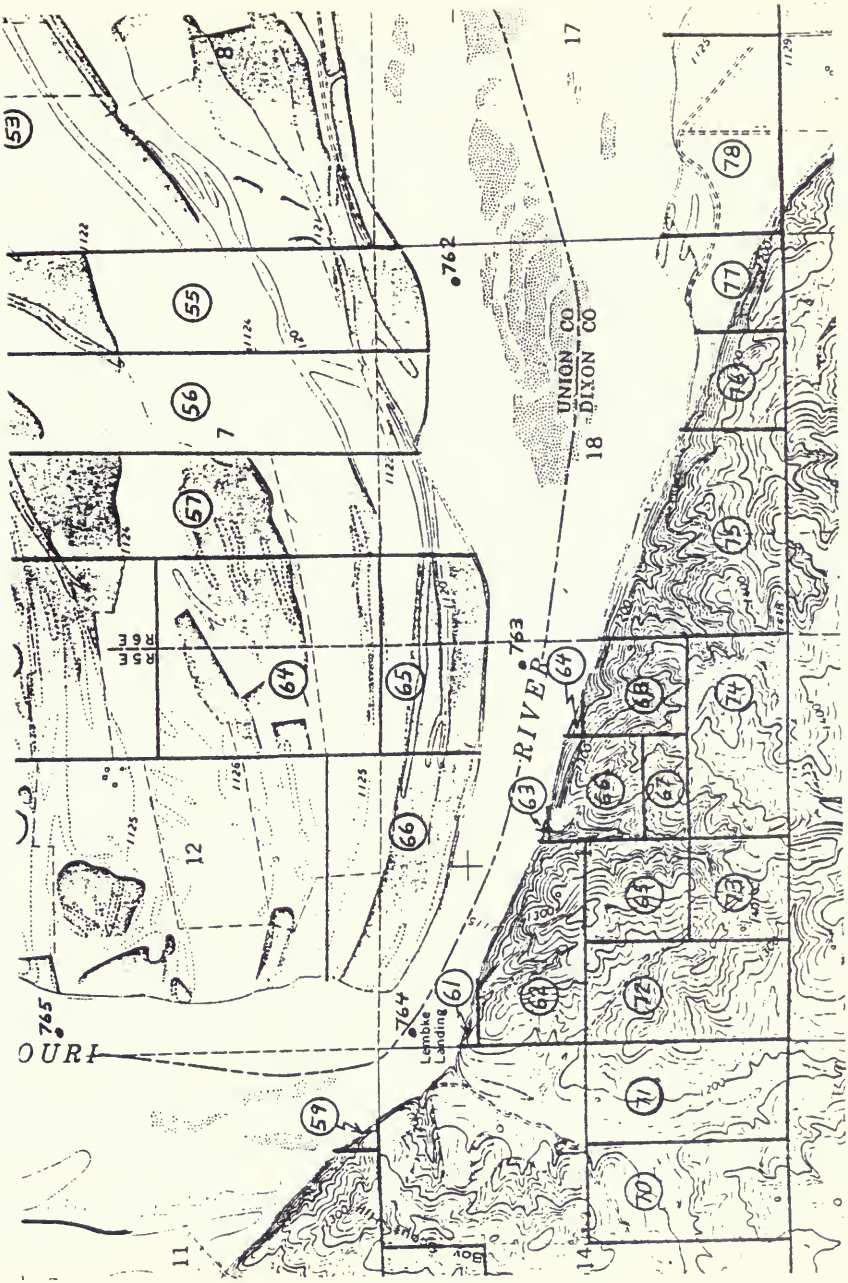

CLAY CO
UNION CO
ST PAUL
MILWAUKEE
CHICAGO
Burbank
Burbank Lake
BM 1139
31
36
35
6
2
108
109
106
105
103
104
102
101
100
99
98

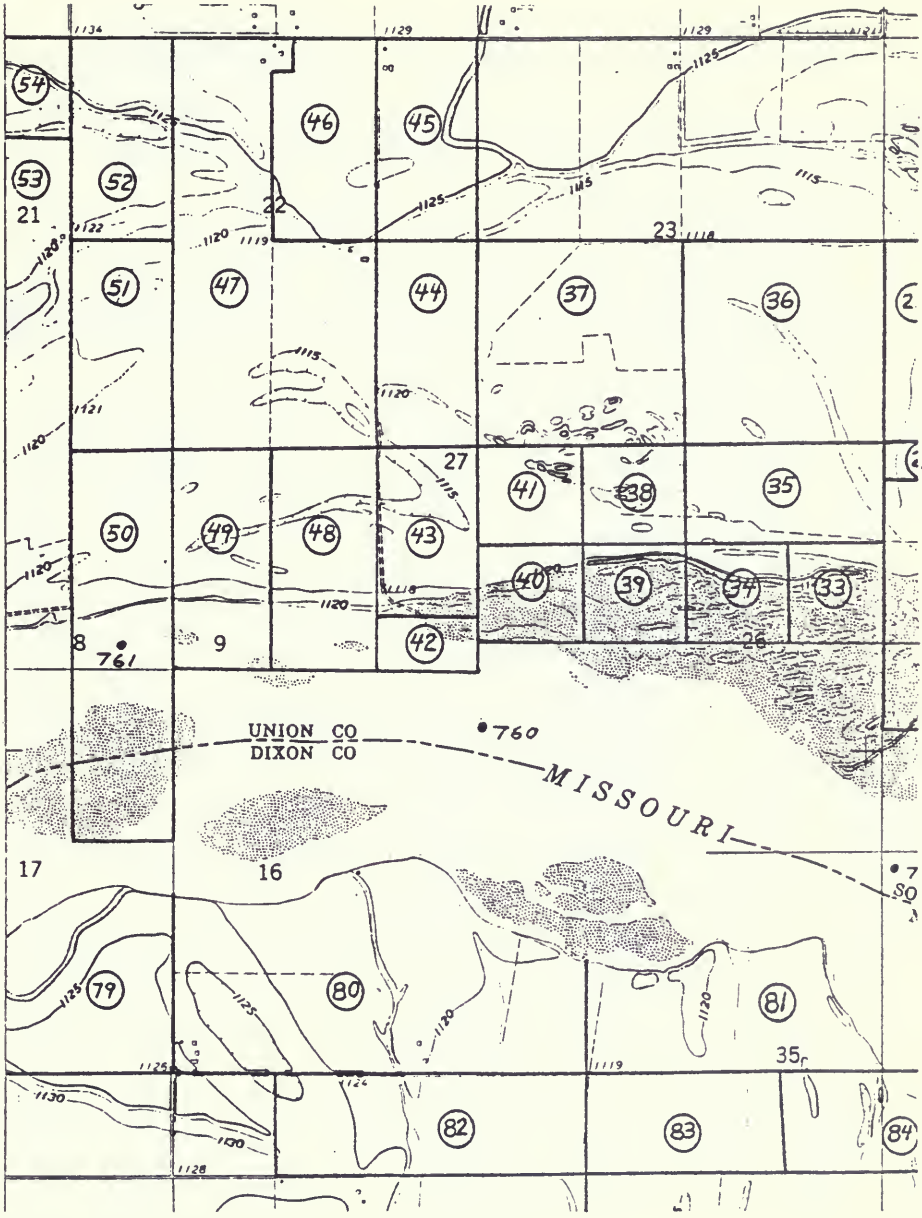

9
769
110
111
29
28
40
11
768
45
RIVER
SOUTH DAK
NEBRASK
42
41
46
32
33
43
47
49
51
50
44
34
T 32 N
T 31 N
48
14
53
Rattlesnake
BM 1150

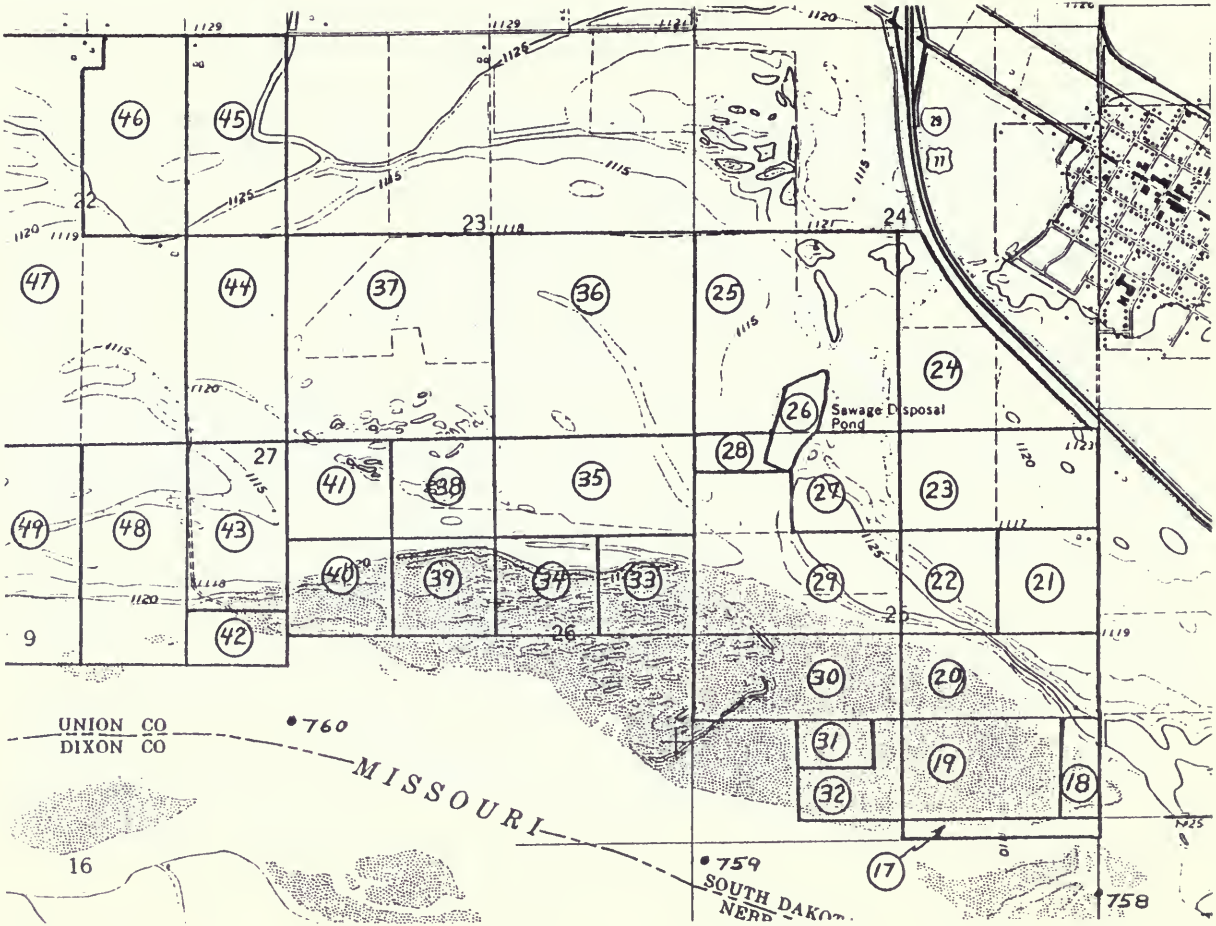

769
110
111
112
113
114
76
75
72
71
74
73
11
12
768
RIVER
SOUTH DAKOTA
NEBRASKA
CLAY CO
UNION CO
DIXON CO
767
47
49
51
50
52
53
54
55
56
34
13
14
18
19
T 32 N
T 31 N
48
Rattlesnake Hill
BM 1150
3
Volcano Hill
Ionia Cem
766
24
R 51 W
R 50 W

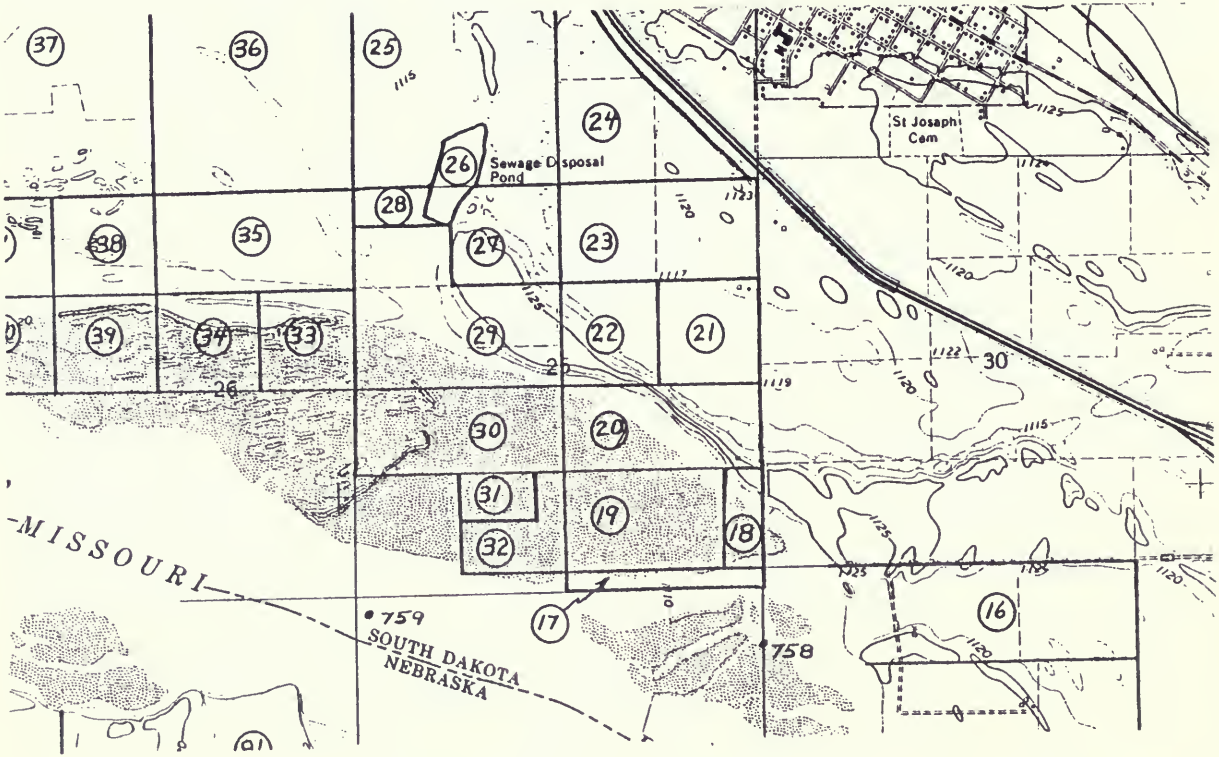
ELK POINT
16
17
18
19
20
21
Well
DIXON CO
CLAY CO
UNION CO
R51W
R50W
767
766
MISS

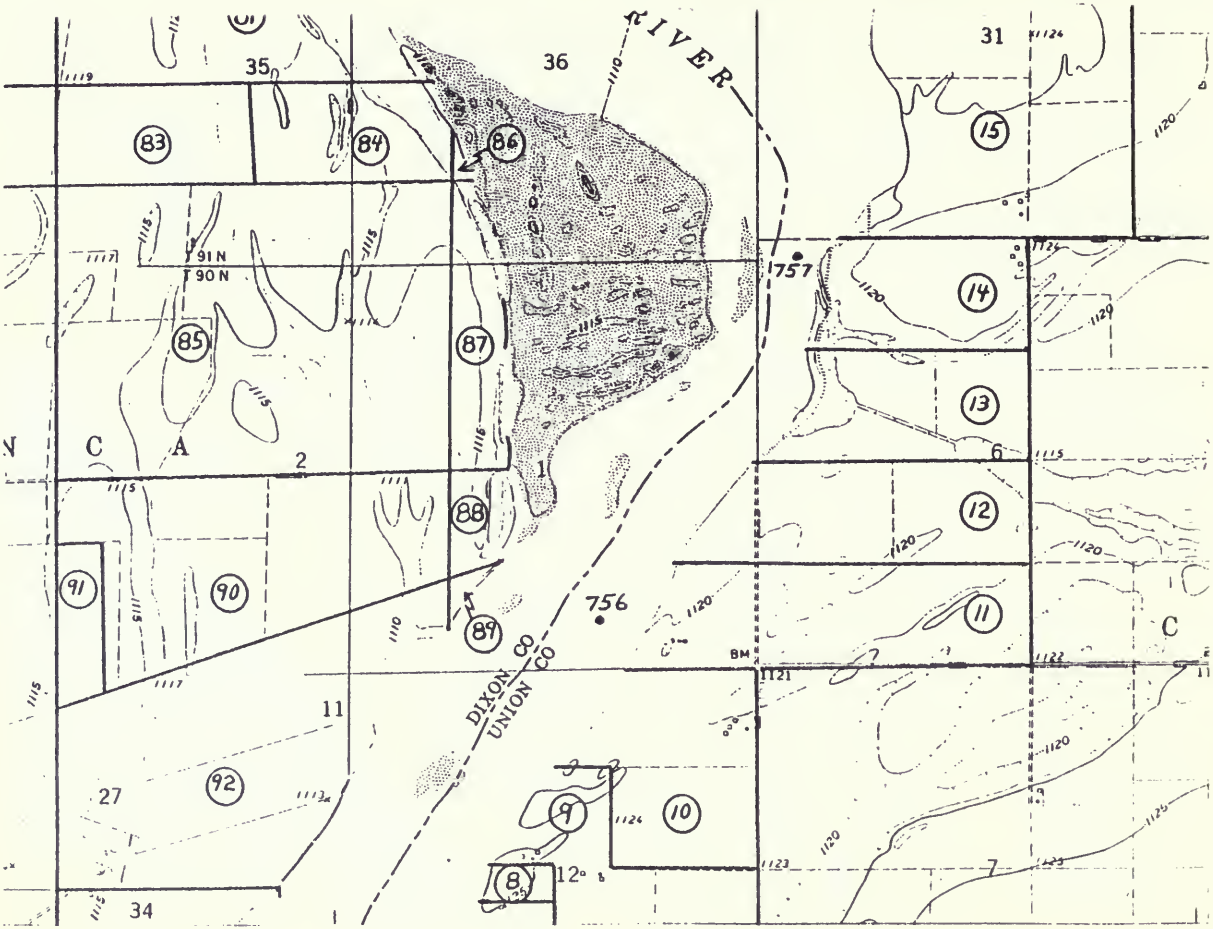

766
765
764
MISSOURI
R51W
R50W
Lemoke Landing
19
12
11
2
24
T
E

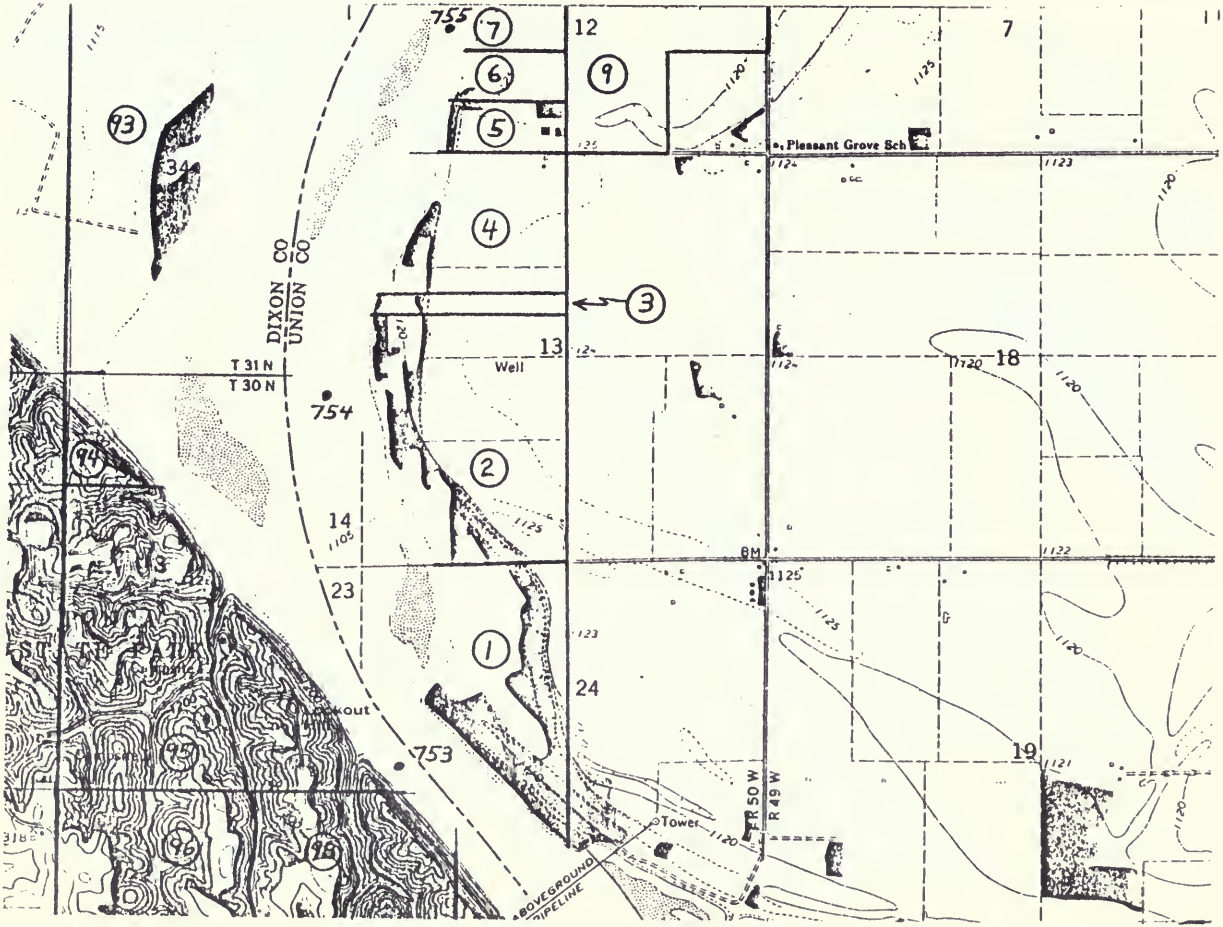

UNION CO
DIXON CO
RIVER
Lemke Landing
762
763
764
765
OURI


UNION CO
DIXON CO
MISSOURI
760
761
54
53
52
46
45
22
23
21
51
47
44
37
36
50
49
48
43
27
41
38
35
40
39
34
33
42
26
8
9
17
16
79
80
81
82
83
84
35


Sewage Disposal Pond
UNION CO
DIXON CO
MISSOURI
760
759
758
SOUTH DAKO
NEBR


37
36
25
24
26
Sewage Disposal Pond
28
38
35
27
23
39
34
33
29
22
21
26
25
30
20
31
19
18
32
17
16
MISSOURI
759
758
SOUTH DAKOTA
NEBRASKA
St Josaph Cem
30
1115
1120
1125


RIVER
35
36
31
83
84
86
15
T 91 N
T 90 N
757
14
85
87
13
N C A
2
1
6
88
12
91
90
89
756
11
C
DIXON
UNION
CO
CO
BM
1121
11
27
92
9
10
8
12°
7
34


755
754
753
DIXON
UNION
CO
CO
T 31 N
T 30 N
Well
Pleasant Grove Sch
Lookout
Tower
BM
R 50 W
R 49 W
BOVEGROUND PIPELINE
12
13
14
23
24
18
19
7
34
1
2
3
4
5
6
7
9
93
94
95
96
98

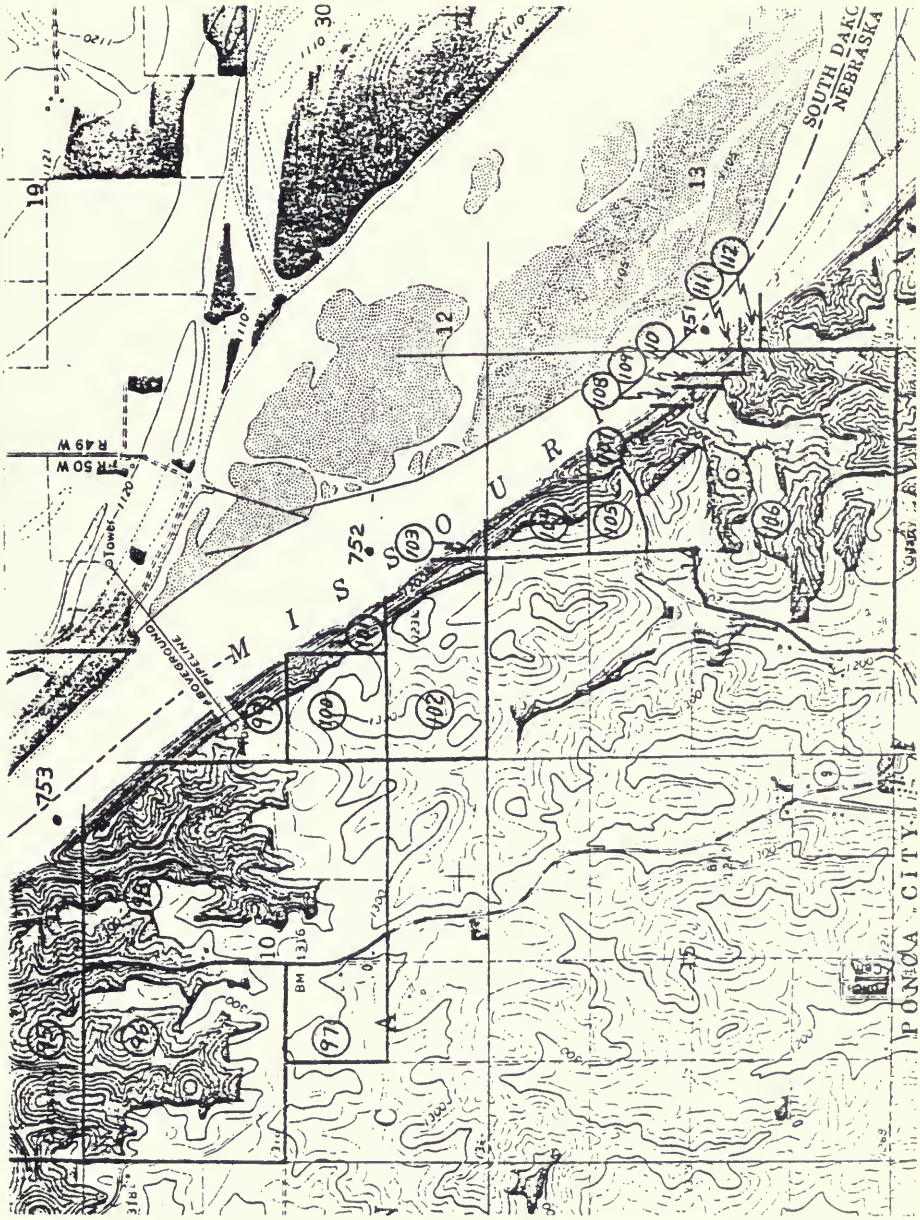

R50W
R49W
Tower
ABOVEGROUND PIPELINE
MISSOURI
753
752
751
BM 1336
SOUTH DAKOTA
NEBRASKA
PONCA CITY

TABLE OF SOURCES

Base Data

U.S. Army Corps of Engineers, Yankton to Ponca Bank Erosion Study, Summary Comparisons 1930-1975

U.S. Army Corps of Engineers, Yankton to Ponca Bank Erosion Study, Computation Sheets 1972-74 and 1974-75.

Ownership Information

Cedar County, Nebraska - Cadestral maps contained in the County Clerk's office and a discussion with the Clerk.

Dixon County, Nebraska - Cadestral maps and tax records available in the offices of the County Clerk and Tax Assessor.

Yankton County, South Dakota - Maps and tax records found in the office of the Director of Equalization and a discussion with an employee of that office.

Clay County, South Dakota - Tax maps contained in the office of the Director of Equalization and a discussion with the Director.

Union County, South Dakota - Maps and tax records available in the Tax Assessor's office.

In all instances every effort was made to ensure that our ownership information corresponded as closely as possible to the most recent material accessible in the counties. However, the difficulty involved in determining ownership of acreted lands, coupled with the lack of a definitive state boundary in such areas, has probably induced some degree of error.

ELEMENT THREE

LAND USE REGULATION SURVEY, GAVINS POINT DAM TO THE MOUTH OF THE LITTLE SIOUX RIVER

This study was undertaken to inventory land use regulations currently in force along the Missouri River in the eleven-county study area. The area includes Cedar, Dixon, Dakota, Thurston and Burt counties in Nebraska; Yankton, Clay and Union counties in South Dakota; and Plymouth, Woodbury, and Monona counties in Iowa. Regulations at the federal, state and local levels were considered in making this survey. However, only regulations with a direct influence on land use along the river were considered. Land use regulations identified include controls over dredging or filling wetlands, standards for developing flood plain areas, restrictions on altering floodways and local zoning restrictions.

With the exception of the National Flood Insurance Program requirements and the U.S. Army Corps of Engineers' Section 10 and 404 permit programs, little uniformity of land use regulation exists in the area. The states have differing standards or no standards at all for protecting flood plains and floodways. County zoning regulations vary considerably from one county to the next, with six of the eleven having no zoning.

As this report was being prepared numerous changes in the regulation governing land use along the river were being considered. At the federal level attempts were being made to limit or drastically alter the requirements for 404 permits under P.L. 92-500 and for flood insurance under P.L. 93-234. Locally five counties had prepared or were preparing comprehensive plans and zoning regulations. These counties could adopt zoning resolutions at any time. In addition, two counties were in the process of reviewing their zoning regulations and proposing amendments which would effect land use along the river. Eight counties in the area are being encouraged to adopt minimum flood plain regulations by the Department of Housing and Urban Development.

If they fail to do so within the allotted time they will lose their eligibility for federal disaster assistance should a flood occur. The following information is based upon land use regulations in force along the Missouri in the study area during the spring of 1977.

SECTION ONE

THE FEDERAL ROLE

Section 404 and Section 10 Permit Programs

The Secretary of the Army working through the Chief of the Corps of Engineers has the authority to regulate construction, channel modification, excavation, discharge of refuse or fill and other changes naturally affecting navigable waterways, their tributaries, flood plains below the ordinary high water mark and wetlands. The Corps of Engineers has similar authority to regulate natural lakes of five acres or more and their wetlands. Activities and structures which commonly come under these regulations include the construction of piers, bulkheads, docks, dikes, irrigation withdrawal systems and the deposition of refuse or fill. Two complimentary pieces of Congressional Legislation give the Chief of the Corps of Engineers this power. They are the Rivers and Harbors Act of 1899 and the Federal Water Pollution Control Act of 1972. Section 10 of the Rivers and Harbors Act gives the Secretary of the Army working through the Corps of Engineers the authority to regulate construction and modifications which may affect navigable waterways. Section 404 of the Federal Water Pollution Control Act authorizes the Secretary of the Army to issue permits for the discharge of dredge or fill material into navigable waters at specified disposal sites. The Corps of Engineers must utilize Environmental Protection Agency guidelines (developed under Section 404 of the same act) in determining disposal sites.

The courts have expanded the meaning of navigable waterways to include waters and their tributaries. Corps of Engineers authority covers rivers, creeks, and streams which have a flow of five cubic feet per second or more, the adjacent flood plain to the ordinary high water mark and wetlands. The ordinary high water mark is defined as that point on shore which is inundated 25% or more of the time.

The Corps of Engineers exercises this authority through a permit program. The District Engineer is given the responsibility of issuing or denying permits. Permits are required for any activity which might be included under Section 10 or 404 of the appropriate legislation. After a permit is requested, the Corps of Engineers reviews the plans and specifications of the project to be undertaken. The application is also made available to federal, state and local governmental agencies which have water, wildlife, recreation, flood plain regulations or general planning responsibilities. These agencies are invited to make comments on the application. A public notice is published and members of the general public may also review and comment on the application. In some cases a public hearing may be required. If the activities requiring the permit are determined to have substantial environmental effects, the issuance of the permit will be considered a major Federal action. As such, an environmental impact statement pursuant to the National Environmental Policy Act of 1969, Section 102, is required. If an environmental impact statement is required it must go through the same review process as the permit. Additionally, it must be submitted to the Council on Environmental Quality. The District Engineer or any reviewing agency may require information beyond that supplied in the application and the environmental impact statement.

After the necessary reviews have been made and the application procedures have been followed, the District Engineer determines in accordance with the record and applicable regulations whether or not a permit should be issued. The determination must be based on the public interest. According to Corps of Engineers' representatives in the Omaha District, 200 days are

required to receive a Section 404 or Section 10 permit if an environmental impact statement is not required and other complications do not develop. If a permit is denied, the applicant can appeal the decision to a Federal court.

National Flood Insurance Program

The National Flood Insurance Program is a program which makes federally subsidized insurance available to property owners in flood hazard areas. The program was established by Congress under the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The Secretary of the Department of Housing and Urban Development has delegated the administration of the National Flood Insurance Program to the Director of the Federal Insurance Administration.

Before a community becomes eligible for federally subsidized flood insurance, it must be identified as having a flood hazard area, apply for the Flood Insurance Program and agree to adopt minimum flood plain management regulations. The level of flood plain regulation depends on a community's position in the program. There are two different levels, the emergency and the regular. The emergency program is for communities which have been identified as having flood hazard areas and for which flood hazard boundary maps have been developed. These communities must adopt regulations restricting development in identified areas. The city, village or county, having jurisdiction in the flood hazard area, must adopt a building permit system and require that all new or substantially altered habitable structures be built or flood protected to a level of one foot above the elevation of

a one hundred year flood. The one hundred year flood is one having a percent probability of occuring in a given year. The requirement for flood proofing includes basements. Additionally, the community must assure that the flood carrying capability of water courses within its jurisdiction will be protected. Requirements for mobile homes located within a flood hazard area include anchoring to resist flotation, collapse, or lateral movement. All new utilities systems must be constructed to minimize flood damage in these areas. Communities are expected to use all available flood plain information in addition to the flood hazard boundary maps when implementing their flood plain management program.

The regular program starts when flood elevation maps and flood hazard risk maps have been provided in a final form. Two major changes in the community's flood plain management program are required. The community must use the elevations identified on these maps as the level of the one hundred year flood and the community must adopt regulations protecting the regulatory floodway. The regulatory floodway is the portion of a flood plain that must be reserved in order to discharge the one hundred year flood without cumulatively increasing the water surface elevation more than one foot.

Property owners who are eligible but do not apply for flood insurance cannot receive federal disaster assistance for losses due to flooding. The same is true for property owners in communities which have been identified as having flood hazard areas but have failed to take the necessary actions.

Communities come under the sanctions of the program if they have been identified but fail to apply or after applying fail to adopt and enforce

minimum flood plain management regulations. The sanctions are applied to the area which has been identified on official flood hazard maps.

The sanctions include ineligibility for subsidized flood insurance, ineligibility for disaster assistance for losses due to flooding and the prohibition of federal financial assistance for acquisition, or construction. Federal financial assistance includes grant programs and federally insured loans. A federally insured lending institution cannot make a loan on an existing or new structure in a flood hazard area which is under the sanctions of the National Flood Insurance Program.

Counties in the study area which have been identified by the Department of Housing and Urban Development as having flood hazard areas are Yankton, Clay and Union counties, South Dakota; Plymouth, Woodbury and Monona counties, Iowa; and Dakota County, Nebraska. Burt County, Nebraska, has been identified at local request. Cedar, Dixon and Thurston counties in Nebraska have not been identified. All identified counties have flood hazard areas adjacent to the Missouri River. Several oxbow lakes and former channels are also subject to flooding. General flooding of the Missouri River flood plain is prevented by the main stem dams above Yankton, South Dakota. The one hundred year flood plain of the Missouri has not been identified and it is not known to what extent flooding could occur. All communities in the study area with zoning jurisdiction along the Missouri River are enrolled and participate in the Emergency Flood Insurance Program.

SECTION TWO

NEBRASKA LAND USE REGULATION

General Provisions

The Revised Statutes of Nebraska, 1943, Chapter 23-114 and 23-164 through 174, allow counties to adopt and implement comprehensive plans and land use regulations. Similar provisions are made for cities of the first and second class and villages under Chapters 17-1001 through 1003, 18-1301 through 1306 and 19-901 through 915. The authority to adopt, amend and enforce land use regulations rest with the governing body of these political jurisdictions.

The requirement and procedures for adopting these regulations are similar for all three governing bodies. Before zoning can be adopted a planning commission must be appointed and a comprehensive plan must be prepared. The planning commission is appointed by the governing body and cannot include elected officials. It is a citizens' planning commission. In the case of cities and villages, the commission is composed of nine members. County planning commissions are not required to have nine members but generally have at least nine. State law provides for joint planning efforts. After agreement to form a joint planning commission, two or more counties, cities or villages can use a single planning commission. This is often done on a countywide basis.

After a commission is officially appointed, they are charged with preparing a comprehensive plan for the area over which zoning controls will be exercised. The comprehensive plan must include at least three elements to meet the minimum requirement of state law. These are: (1) land use plan, (2) transportation plan, and (3) public facilities plan. The plan should also be based on documented population and economic projections and consist of both graphic and textual material.

After preparing a comprehensive plan and land use regulations the planning commission holds a public hearing which must be advertised in a paper of general circulation at least ten days in advance. After taking the information presented at the hearing into consideration, the planning commission may recommend the plan and land use regulations to the governing body. Before the governing body can officially adopt the plan or land use regulations it must hold another public hearing. A ten day news notice is also required for this hearing. The comprehensive plan must be adopted prior to zoning regulations. In addition, the zoning regulation should conform to the comprehensive plan, specifically to the land use element. Regulations which the governing body may adopt include zoning, subdivision regulations, capital improvement programs and septic tank regulations.

The administration and enforcement of land use regulations is the responsibility of the governing body.

After a comprehensive plan and land use regulations are adopted, the planning commission is charged with making recommendations to the governing body as changes and updates are required. The plan or regulations may be changed or amended by following the same procedures required for adoption.

Extra-Territorial Jurisdiction - The primary difference between regulations adopted by the individual governing bodies is that of jurisdiction. Counties with land use regulations can enforce them over the unincorporated county except where cities or villages are exercising their extra-territorial jurisdiction. If a city or village has legally adopted a land use regulation and is exercising its extra-territorial jurisdiction, the community's

authority supercedes that of the county. An agreement between the county and community is not required for a community to have this authority. Extra-territorial jurisdiction varies according to the size of the community. A city of the second class and villages with populations of 5,000 or less have a one mile extra-territorial jurisdiction, while a city of the first class which has a population above 5,000 has a two mile extra-territorial jurisdiction. The cities of Lincoln and Omaha have a three mile extra-territorial jurisdiction. All land use controls exercised within a community may also be applied to the extra-territorial area.

Board of Adjustment - A five member board of zoning adjustment is provided for in state law. It is appointed by the governing body. Under certain circumstances, a village board can appoint itself as the board of adjustment. In larger communities and counties, the board is generally a citizen board of non-elected individuals. In all cases, one member and one member only must be from the planning commission. Boards of zoning adjustment are required for all counties with zoning regulations and for communities with regulations in counties which do not have regulations. Cities of the first class in counties with regulations may appoint a board of adjustment or use the county's board of adjustment. All second class cities and villages in counties with county zoning regulations must use the county's board of adjustment. Omaha and Lincoln have their own boards of adjustment.

Boards of zoning adjustment, excluding Omaha and Lincoln, have very limited powers. They are a quasi-judicial body which is authorized to do the following: (1) interpret the zoning regulation, (2) allow variances under very limited circumstances, (3) hear administrative appeals in cases where

the plaintiff appeals an action of the zoning administrator, and (4) make decisions which the zoning regulation empowers the board of adjustment to make.

Decisions on conditional uses and special use exceptions would fall into the last category but the governing body can act in these cases if it desires. The board of adjustment is the only body authorized to act on variances, appeals and interpretations. The next recourse from the board of zoning adjustment is a court of record.

Flood Plain Regulation

Natural Resources Commission - This Nebraska state agency has the authority to regulate construction or alteration of the one hundred year flood plain after it has been identified as a commission floodway. Regulation of the commission floodway is done by the state only in the absence of local authority. If a community or county does not have zoning powers or chooses to disregard the flood hazard, the Natural Resources Commission (NRC) has the authority to regulate development in the one hundred year flood plain. In order for a county or community to keep control of this area, it must adopt and enforce a flood plain regulation at least as stringent as that which has been adopted by the NRC.

The NRC flood plain regulation has similar stipulations as those required by the Federal Insurance Administration in accordance with the National Flood Insurance Program. Generally, development is allowed provided it is elevated one foot above the level of a one hundred year flood or flood proofed to that level. In addition, all electrical equipment, storm sewers and sanitary sewers shall be designed to withstand flood water if they are

below the one hundred year flood level. In most instances, fill can be used to bring a building site to the required level. If this is done, the fill must extend fifteen feet beyond the limits of the building.

More stringent requirements are imposed on an area which is designated as the select floodway. This is the area where flood water moves at a rapid rate. In this area no development is allowed which would raise the level of a one hundred year flood one foot. Additionally, no residential or high intensity development is permitted.

The regulation of a commission floodway is administered through a permit system. These permits are required by new guidelines for the National Flood Insurance Program in addition to local permits in areas where the state is enforcing these regulations. The denial of a permit can be appealed to the Natural Resources Commission and to a court of record.

There are currently no designated commission floodways in Cedar, Dixon, Dakota, Thurston or Burt counties in Nebraska.

Department of Water Resources - This state department has authority to regulate alteration of, and construction in, all one hundred year flood plains not designated as commission floodways by the Nebraska Natural Resources Commission or not excluded from regulations by the department. The regulations are basically the same as those of the Natural Resources Commission but are more general in nature. Permits are required for any activity which may be incompatible with good flood plain management. New construction for which a permit is specifically required include buildings, fill, bridges, embankments, walls, wharfs, excavations, fences and any alterations affecting the flow of floodwater. Permits are not required by the Department of Water Resources (DWR) for streams which have been identified on county maps and excluded from these requirements. Only minor waterways with periodic flows fall into this

classification. None of the streams in the study area are included in this non-regulated group.

The regulations of the DWR require that all residential development must be elevated at least one foot above the level of a one hundred year frequency flood. Nothing used for human habitation may be built below this level unless it is certified to be flood proofed by a registered professional engineer. No structure or other obstruction can be placed in a floodway which will raise the level of a one hundred year flood by more than one foot. Temporary structures are permitted if the permittee assumes full liability in case of a flood. Structures left in place for more than 12 months are not considered temporary.

Actions by the DWR concerning this regulation may be appealed to the courts.

Cedar County, Nebraska

Zoning and Subdivision Regulations - The Cedar County Board of Commissioners appointed a Planning Commission in 1975. Since July of 1976, the Planning Commission has worked with the Nebraska State Office of Planning and Programming to develop a countywide comprehensive plan and land use regulations. Both the plan and land use regulations are currently in a draft form. The draft regulations provide for a Conservation and Open Space District and a Special Flood Plain District (SFP). Conservation and open space zoning is proposed for the area adjacent to the Missouri River at this time. Areas which have flood hazards will have the special flood plain district appended to the conservation and open space districts. The specific details of the conservation and open space district and the special flood plain district have not been formulated but the purpose is stated in the draft text.

The purpose of the conservation and open space district is to preserve areas of the county which are not well suited to urban development and which have natural scenic beauty and high recreational value. The purpose of the special flood plain district is to minimize the danger to life and property due to flooding and to protect the floodway as identified by the Nebraska Natural Resources Commission from development which would restrict the flow and increase the severity of a flood.

No zoning or subdivision regulations are in effect at this time.

Flood Plain Regulation - Rural Cedar County has not been identified as a flood hazard area by the Department of Housing and Urban Development. Consequently, the county is not required to adopt flood plain regulations in accordance with the National Flood Insurance Program at this time.

Dixon County, Nebraska

Zoning and Subdivision Regulations - There are no zoning regulations at the county level in Dixon County. In July, 1975, the Tri-County Council of Governments, of which Dixon County is a part, received a 100% grant from the Old West Regional Commission to develop a comprehensive plan and land use regulations for the county. The possibility of developing a land use planning and regulator program was discussed with the County Board of Supervisors. The County Board decided not to appoint a Planning Commission and not to develop land use regulations. The county comprehensive plan was developed by a planning consulting firm for the Council of Governments. It was developed without the input of a Planning Commission or the endorsement of the County Board of Supervisors. No interest has been indicated in zoning and subdivision regulations at this time. The appointment of a

Planning Commission and the adoption of land use regulations does not appear to be likely in the foreseeable future.

Flood Plain Regulation - Rural Dixon County has not been identified as a flood hazard area by the Department of Housing and Urban Development. The county is not required to adopt flood plain regulations in accordance with the National Flood Insurance Program at this time.

Dakota County, Nebraska

Zoning and Subdivision Regulations - The county adopted a zoning resolution in August of 1969, which has been amended several times and was re-adopted in April of 1976. The county is currently enforcing both zoning and subdivision regulations. As indicated on map number 2, there are two zones bordering on the Missouri River. These are the Agricultural (AG) and Recreation Conservation Districts (RC).

Agricultural District (AG) - This district regulates the majority of land adjacent to the Missouri River in Dakota County and provides for agricultural uses and uses commonly appurtenant to agriculture. The purpose of the district is to preserve agricultural lands from encroachment of incompatible uses and to conserve agricultural resources.

This district allows agriculture, horticulture, animal husbandry (including feed lots), as well as other common farm operations and uses by right.

Farm houses are allowed on farmsteads of 20 acres or more. Exceptions are made for smaller residential lots when an existing farmstead is divided from a larger unit. Mobile homes are treated as single family dwellings when

set on a permanent foundation and taxed as real property. A special permit is required for mobile homes which are not set on foundations. Mobile home parks are allowed in the agricultural district.

Recreational Conservation District (RC) - This district regulates more developed rural areas adjacent to the Missouri River and is shown on map number 2. It is basically an agricultural district with reduced requirement for residential development and water-oriented recreational uses added as conditional uses. The purpose of this district is to promote and protect the most desirable type of development bordering reservoirs and other recreational facilities.

The district requires a minimum lot size for single family dwellings of 10,000 square feet. There are no requirements for public sewer or water supplies. Mobile homes are allowed as regular single family dwellings if they are on a permanent foundation, and a special permit has been obtained. Mobile home parks are allowed in this district after action by the Board of Zoning Adjustment.

Conditional uses which are allowed after favorable action by the Board of Zoning Adjustment are marinas, boat and motor repair shops, restaurants, motels, hotels, convenience good stores, and compatible recreational enterprises.

The zoning resolution does not provide for regulation of flood hazard areas. The County Board of Commissioners has adopted a separate flood plain control resolution to conform to the requirements of the National Flood Insurance Program.

The subdivision regulations were adopted and re-adopted in conjunction with the county zoning regulations. They provide minimum standards for the development of agricultural land into residential. These regulations require the review of new plats by the Planning Commission and approval by the County Board of Commissioners before land is formally subdivided. The following improvements are required before subdivision is authorized: (a) survey monuments, (b) road grading of full right-of-way, (c) paving to county standards, and (d) the provision of adequate storm drainage. The regulations allow for the adoption of minimum water, sewer and paving standards. These additional requirements have not been adopted at this time.

The County Planning Commission and Board of Commissioners is currently working on a complete update of the county's eight-year-old zoning regulation. The proposed new regulation is being prepared by staff of the Siouxland Interstate Metropolitan Planning Council (SIMPCO) which is the regional planning organization for this area. A draft copy of SIMPCO's proposal was presented to the Planning Commission in June of 1977. The proposed regulation includes a special flood plain district (SFP) and clarifies many aspects of the old regulation. Adoption of the new regulation is likely in late 1977 or early 1978. Additional revisions to both the zoning regulations and the subdivision regulations are expected after the countywide comprehensive plan is updated in 1977 or 1978.

Flood Plain Regulation - Rural Dakota County has been identified by the Department of Housing and Urban Development as a flood hazard area. The county is currently enrolled in the emergency program and residents are eligible for subsidized flood insurance. In accordance with this program

the county is enforcing a minimum flood plain regulation. It basically requires new structures in the flood plain to be flood proofed to one foot above the level of a one hundred year flood or to be built one foot above the level of a one hundred year flood. The county is currently reviewing flood plain maps for the rural area and has provided the engineering firm developing the maps with hydrological data which will hopefully reduce the area indicated as having a flood hazard. After the flood hazard maps have been accepted as final, the county will have one year to adopt a more specific flood plain regulation.

Thurston County, Nebraska

Zoning and Subdivision Regulations - The Thurston County Board of Supervisors appointed a County Planning Commission in 1975. This Planning Commission was assisted by the Extra-Metropolitan Council of Governments (EMCOG) in the preparation of a countywide comprehensive plan and land use regulations.

The Thurston County comprehensive plan, zoning regulations and subdivision regulations were presented to the county by EMCOG staff in April, 1976. The proposed zoning regulations provide for a Flood Plain District (FP) and a Historical Preservation District (H). The County Board of Supervisors has not taken action to adopt the plan and regulations since their development. No action is anticipated in the near future.

Flood Plain Regulation - Rural Thurston County has not been identified as a flood hazard area by the Department of Housing and Urban Development. The county is not required to adopt flood plain regulation in accordance with the National Flood Insurance Program at this time.

Burt County, Nebraska

Zoning and Subdivision Regulations - Zoning and subdivision regulations were adopted by the County Board of Supervisors in December of 1974. The regulation came under immediate criticism from residents who were opposed to land use controls and those who felt the regulation was too restrictive. It provided for a 20 acre minimum residential lot size in the agricultural district, flood plain restriction along the river and a historical district to protect historical sites. There were no provisions in the regulation for seasonal dwelling units. A district of this type was recommended as an amendment in August, 1975, but was never adopted. Numerous public meetings were held concerning zoning with a great deal of opposition being identified and very little support. For practical purposes the zoning and subdivision regulations were never enforced by the county. The Board of Supervisors voted unanimously on a motion to rescind county land use regulations in January, 1976. A resolution, which is the action required by state law for this change was passed by the board at a later date. Currently, Burt County does not have zoning or subdivision regulations.

Flood Plain Regulation - At the request of local residents, the county was identified by the Department of Housing and Urban Development as one having a flood hazard area. Residents of the rural county will be eligible for federally subsidized flood insurance after the county adopts minimum flood plain regulations and applies for the emergency insurance program. The Board of Supervisors has not adopted minimum regulations at this time. Barring appeal, they have approximately one year to do so. If flood plain

regulations are not adopted by July of 1978 (approximate date) the county will be sanctioned under the terms of the program. This will result in subsidized flood insurance not being available to residents. In addition, federal grants and federally insured loans will not be permitted for developments in the flood plain area and federal disaster assistance will not be provided to flood plain residents if a flood does occur.

SECTION THREE

SOUTH DAKOTA LAND USE REGULATION

General Provisions

The South Dakota Codified Laws, Chapter 11-2-1 through 11-2-35, enable counties to adopt comprehensive plans and land use regulations, while Chapters 11-4-1 through 11-4-29 and 11-6-1 through 11-6-39 provide the same authority to cities. The power to adopt land use regulations rests with the governing body of the counties and cities. A planning commission must be appointed and a comprehensive plan must be prepared before land use regulations are adopted.

The county planning commission, which may also be known as the zoning commission, or planning and zoning commission, is appointed by the county board of commissioners. The commission consists of at least three members--one of which is also on the county board. The number of persons on the planning commission is determined by the county board and must be an uneven number. The county board may also appoint ex-officio members to the planning commission. The county planning commission may act as the joint planning commission for the county and municipalities.

Each city is required to have a planning commission consisting of five or more members.

The responsibilities of both planning commissions are the same. They are required to prepare a comprehensive plan for the county or city and to develop regulations necessary to implement the plan. Cities are also required to plan for extra-territorial jurisdiction if they intend to regulate it.

A city comprehensive plan is defined by South Dakota Codified Laws, Chapter 11-6-1(7), as a "document which describes in words, and may illustrate by maps, plats, charts and other descriptive matter, the policies,

goals and objectives of the board to interrelate all functional and natural systems and activities relating to the development of the territory under its jurisdiction." The purpose of the plan is to guide the physical, social, economic and environmental development of the planning area. The same definition is used for a county comprehensive plan in Chapter 11-2-1.

Public hearings are required before the plan and land use regulations can be adopted. In cities, the hearing is held by the planning commission. A notice published at least fifteen days prior to the hearing is required.

For county plans and regulations a hearing is held by the county board of commissioners. This hearing must be preceded by two published notices once a week for two successive weeks.

Both cities and counties are required to submit their comprehensive plans and land use regulations to the South Dakota State Planning Bureau prior to the public hearing. The governing body is empowered to adopt the plan and appropriate land use regulations after the hearing unless a petition is filed requesting a referendum. To be valid, the petition must be signed by ten percent of the electors in the city or county, with the number of electors to be determined by the number of votes cast in the last gubernatorial election. If a successful petition is filed, the plan and regulation are put on the ballot in the next general election. If the plan and regulations are rejected by the voters they are returned to the planning commission for further study and revision.

If a referendum is not called for, the governing body may adopt the plan and regulations which become effective 20 days after a summary of their contents is published. The governing body may adopt zoning regulations,

subdivision regulations, and health and safety codes to implement the comprehensive plan. The plan or regulations may be changed or amended by following the same procedures required for adoption. Temporary zoning regulations are allowed by state law for a one year period, with the possibility of an additional one year extension provided a planning commission is formed and a comprehensive plan is being developed. No extensions are allowed beyond the two year period. Copies of the adopted comprehensive plan and land use regulations must be filed with the auditor or clerk and the South Dakota State Planning Bureau.

Extra-Territorial Jurisdiction - Cities may exercise zoning jurisdiction in a three mile area beyond their corporate limits provided the county relinquishes its authority or adopts a substantially identical zoning regulation for the area. The planning commissions of the city and county must meet jointly and make their recommendations before the city can adopt regulations for this area. A joint meeting of the county board of commissioners and the city council is required before action can be taken to adopt the extra-territorial regulation. Although the city may enforce regulation in this three mile area, it can do so only when in agreement with the majority of the county board of commissioners.

Board of Adjustment - A board of adjustment is provided for in state law for cities and counties. Cities have three options in appointing such a board: (1) the mayor may appoint a separate five member board of adjustment, (2) the city council may act as the board of adjustment, or (3) the planning commission may act as the board of adjustment. The county board of commissioners must appoint the county planning commission to act as the board of adjustment.

The authority and responsibilities of the board of adjustment are the same regardless of its composition. They hold hearings, consider and are empowered to act on (1) appeals of decisions of the zoning enforcement officer when it is alleged he has made an error in the performance of his duties, (2) special exceptions to the regulation which they are empowered to act on by the regulation, and (3) variances to the regulation as prescribed by state law. These variances must be based on special cases where undue hardship would be created if the regulations were enforced literally. The authority to hear appeals on actions of the zoning administrator and to reverse his actions gives the board of adjustment the power to interpret the regulation. In all matters the board must act in the best interest of the public. Appeals of decisions of a board of adjustment must be made to a court of record.

State Agency Flood Plain Regulations

State Department of Natural Resources Development - The State Department of Natural Resources Development (created by Chapter 1-40, South Dakota Codified Laws) has the authority to regulate structures used to divert water for irrigation purposes. No authority exists at the state level for regulating development in flood plain areas.

Provision in state enabling legislation for zoning which provide for a referendum on land use regulations do not apply to ordinances regulating or establishing flood plain areas.

Yankton County, South Dakota

Zoning and Subdivision Regulations - There are currently no zoning or subdivision regulations in effect at the county level in Yankton County.

The Board of County Commissioners adopted both zoning and subdivision regulations by resolution on April 4, 1972. This regulation was an interim zoning regulation which could be adopted according to state law prior to the preparation of a county comprehensive plan. The zoning regulation was extended by resolution on April 22, 1975. Interim zoning is allowed by state law for one year prior to the official adoption of a county comprehensive plan. This type zoning can be extended an additional year if necessary, thus allowing interim zoning to be in effect for a maximum of two years at which time a conventional regulation based on a comprehensive plan is required.

Yankton County's interim zoning and subdivision regulations were challenged in circuit court and eliminated by the subsequent court action. The decision was based on the expiration of the two year time period during which the county had not adopted a comprehensive plan. The County Planning Commission and the Board of Commissioners are currently working on a county-wide comprehensive plan. New zoning and subdivision regulations may be adopted after the plan is completed.

Flood Plain Regulation - Rural Yankton County has been identified by the Department of Housing and Urban Development as having flood hazard areas. The County Board is currently reviewing the preliminary flood hazard map for the rural area. After this map is accepted the county will be expected to adopt minimum flood plain regulations in accordance with the National Flood Insurance Program.

Clay County, South Dakota

Zoning and Subdivision Regulations - Interim zoning and subdivision regulations were adopted by the Clay County Board in December, 1972. The Board of Commissioners adopted permit regulations based on a comprehensive plan in December, 1974. The rural area along the Missouri River is zoned Flood Plain or Conservation District (F-1). This district is indicated on map number 1.

Flood Plain or Conservation District - This district has three stated purposes. They are to protect natural drainage courses from development which would restrict the transport of flood water, to prevent the construction of permanent buildings in the flood plain and to prevent the destruction of valuable irreplaceable natural resources.

The flood plain or conservation district allows common agricultural uses and accessory uses. Single family residences are allowed on two acre or larger lots. Water oriented recreation uses such as boat docks, piers and landings, and other compatible recreational establishments are allowed as special exceptions. Special exceptions require favorable action of the Board of Adjustment before they are permitted. The district regulations require that all permanent structures in this zone be built above the flood plain unless permitted by the Board of Adjustment.

The County Planning Commission acts as the Board of Adjustment in Clay County.

The subdivision regulations require review of new plats by both the Planning Commission and the County Board. Final approval is made by the County Board. Improvements which are required by the regulations prior to final approval include paved streets, adequate storm drainage, curb and gutter and utilities.

Flood Plain Regulation - Clay County has been identified by the Department of Housing and Urban Development as having flood hazard areas. Preliminary maps are currently being reviewed. At this time the county has not applied for the emergency flood insurance program. It will, however, be required to apply for the flood insurance program and adopt a minimum flood plain regulation after the final maps are issued. If these actions are not taken the sanctions authorized by the National Flood Insurance Program may be applied. The county presently does not have a regulation which will meet the requirements of the program.

Union County, South Dakota

Zoning and Subdivision Regulations - The county adopted a comprehensive plan and land use regulations in October, 1971. Both zoning and subdivision regulations are currently being enforced at the county level. As indicated on map number 2, there is one zone bordering the Missouri River. This is the Agricultural District (AG).

Agricultural District (AG) - The intent of this district is to protect agricultural lands and lands consisting of natural growth from incompatible land uses in order to preserve agricultural land and protect the natural environment. This district permits agricultural uses, uses appurtenant to agricultural uses, and mobile homes used on farmsteads by farm families.

Conditional uses which are subject to action by the Board of Adjustment include amusement parks, mobile home parks, race tracks, airports and numerous recreation oriented activities. Wharfs, boat docks and marinas are not listed as uses in this regulation.

Flood Plain District (F) - The zoning regulation also contains a flood plain district although none of the area adjacent to the Missouri River is zoned in this manner. This district is used extensively along the Big Sioux River in eastern Union County.

The intent of this district is to protect rivers, streams and adjacent flood plain areas from incompatible development which would decrease the capacity of the floodway or endanger life and property. Buildings, structures and obstructions are specifically prohibited from this zone. Permitted uses include only the raising of field crops, grazing of livestock, parks and wildlife refuges. While specific flood plain provisions in this regulation are more restrictive than those required by the National Flood Insurance Program, the regulation as a whole is incompatible with the program.

Subdivision regulations were adopted by the county in conjunction with zoning regulations. The subdivision regulations require that all surveys be completed and that improvements be installed prior to final plat approval. A surety bond can be posted in lieu of improvements. The required improvements include paved streets, curb and gutter, sidewalks and water and sewer lines when appropriate. The County Board may waive the requirement for improvements when the subdivision is five lots or less and no new streets are dedicated. Subdivision of property in a flood plain area into residential lots is prohibited.

Flood Plain Regulation - Rural Union County has been identified by the Department of Housing and Urban Development as having flood hazard areas. The county is currently in the emergency program. Preliminary flood hazard maps have been reviewed and flood hazard identification maps were issued in

May, 1977. The county will be expected to adopt a flood plain regulation within one year to remain eligible for subsidized flood insurance.

SECTION FOUR

IOWA LAND USE REGULATION

General Provisions

Chapters 358A and 414 of the Code of Iowa respectively enable counties and cities to adopt comprehensive plans and land use regulations. The authority to adopt and amend land use regulations is given to the governing body of these political jurisdictions.

The requirements and procedures for adopting these regulations are the same for counties and cities. Before a comprehensive plan and zoning regulation can be adopted, the governmental unit must appoint a zoning commission. The zoning commission is responsible for preparing a comprehensive plan and land use regulations. The county zoning commission, which is appointed by the board of supervisors, must have the majority of its membership composed of county residents living outside of the coporate limit of the communities in the county. The city zoning commission is appointed by the city council. Two members of the city's zoning commission are appointed by the county board of supervisors if the city is exercising extra-territorial jurisdiction. These two members must be selected from residents of the two mile extra-territorial area.

Before the zoning commission can recommend a final plan or regulations to the governing body, they must first prepare a preliminary report and hold public hearings. The zoning commission may hire consulting firms or staff to assist in carrying out these responsibilities. The zoning regulation must be prepared in accordance with the comprehensive plan. The regulation should be designed to lessen congestion on streets, secure safety from fire and flood, and to promote the general welfare. It should also facilitate adequate

provision of water, sewer, streets, parks, schools and other public facilities. The plan and regulation should consider the existing land use and the suitability of the area for particular uses. Cities and counties may adopt regulations to promote public health, safety and the general welfare. These include zoning and subdivision regulations.

The zoning commission is also charged with the responsibility of making recommendations on changes and amendments to the comprehensive plan and land use regulations. The procedures for amendments are the same as those for adoption. In addition to hearings held by the zoning commission the governing body must hold a public hearing which is preceded at least 15 days by notice in a newspaper of general circulation before zoning can be adopted or amended.

Extra-Territorial Jurisdiction - Cities in Iowa may regulate unincorporated areas within two miles of the corporate limits if the county does not have a zoning regulation. If the county adopts zoning, the two mile jurisdiction is returned to county control three months after adoption. Cities exercising extra-territorial jurisdiction have two members, each on the city zoning commission and board of adjustment which are appointed by the county board of supervisors. These members must be appointed from residents of the two mile jurisdiction.

Board of Adjustment - The board of adjustment of both cities and counties generally consists of five members appointed by the governing body. The exception to this rule is those cities which are exercising a two mile zoning jurisdiction beyond their corporate limits.

In this instance the city council appoints five members to a seven member board of adjustment with the county board of supervisors appointing the other two. These two must be residents of the two mile area outside the corporate limits.

The powers of the board of adjustment are the same for both cities and counties. They have the authority to hear and decide appeals of actions of the county zoning administrator, special exceptions which they are authorized by the zoning regulation to act upon and variances based on hardship. Variances can only be considered under special conditions as prescribed by state law. The authority to hear appeals and to reverse decisions made by the zoning administrator in effect gives the board the power to interpret the regulation.

State Agency Flood Plain Regulation

Iowa Natural Resources Council - The Iowa Natural Resources Council is given the authority to regulate the development and use of a reasonable flood plain by Section 455A.35 of the Code of Iowa. Under this section the Council shall determine the characteristics of floods which reasonably may be expected to occur and develop regulations governing floodways and flood plains.

The regulations which have been adopted by the Council consider several factors. These include drainage area, damage potential of development, backwater caused by fill and the location of structures. The one hundred year flood plain is used as the basis for part, but no all, of their regulatory program. The Council's regulations are enforced through the issuance or denial of various permits.

Generally, the Council requires that structures of high flood damage potential be elevated or flood proofed to an elevation of one foot above the one hundred year flood level. If the structure or complex has only moderate flood damage potential it must be flood proofed to the fifty year flood level. The Council also regulates construction which would increase the level of a one hundred or fifty year flood. The frequency of the flood considered depends on the area and the type of structure. The Council also reviews plans for dams, channel changes, levees, dikes and buildings requiring fill.

The authority to regulate construction of urban type development is only exercised if the county or city with zoning jurisdiction is not enforcing a regulation as stringent as the state's. The minimum flood plain regulation required for the National Flood Insurance Program exceeds the state's requirements in most cases. State law provides for judicial review of Natural Resources Council regulations by the courts. Actions of Council staff can be reversed by the Council itself.

Plymouth County, Iowa

Zoning and Subdivision Regulations - Land use controls were adopted by the county in November of 1965. These include both zoning and subdivision regulations. The zoning regulation has one district which is used along the Big Sioux River. This is the Conservation District (A) which is shown on map number 2.

Conservation District (A) - This district allows farms of ten acres or more, public parks, gravel pits, and signs. Farm houses must be on sites of ten

acres or more. No accessory uses are identified. Conditional uses which require favorable action of the Board of Adjustment prior to their being allowed include private recreational development, motels, guest ranches, marinas and bait shops. No provisions are made in the zoning regulation for flood plain controls.

The subdivision regulation requires review of plats by the County Zoning Commission and the Board of Supervisors prior to approval. Improvements which are required in new subdivisions include the installation of permanent survey markers and the surfacing of streets to county standards.

Flood Plain Regulations - Plymouth County has been identified by the Department of Housing and Urban Development as having flood hazard areas. Preliminary flood hazard maps have been prepared and if they are not contested will become official in October, 1977. At that time the county will have one year to apply for the National Flood Insurance Program and adopt a minimum flood plan management regulation. If these actions are not taken the residents of the flood hazard area will not be eligible for federal disaster assistance if a flood does occur.

No flood plain controls are currently in effect at the county level in Plymouth County.

Woodbury County, Iowa

Zoning and Subdivision Regulations - The county prepared a comprehensive plan in 1970, with zoning and subdivision regulations adopted in January, 1971. These regulations were revised in 1972 and have been amended numerous times since then. Two zones are used to control land use in rural Woodbury County along the Missouri River. These are the Flood Plain and

Conservation District (FPC) and the Heavy Industrial District (MH). The area encompassed by these zones is indicated on map number 2.

Flood Plain and Conservation District (FPC) - This district allows agricultural, recreational, and residential uses. The intent of this district is to preserve and protect the heavily wooded areas of the county and to protect flood plains from incompatible development. Uses which are permitted by right include parks, marinas, golf courses, private recreational facilities and agricultural operations. Residential development is allowed on lots of five acres or more. Uses which are allowed as accessory uses include motels, restaurants, signs and uses customarily incidental to permitted uses. Mining and extraction of minerals is allowed as a conditional use and as such is subject to Board of Adjustment approval.

Heavy Industrial District (MH) - This district allows the development of industrial uses which could create a nuisance if they were developed in one of the other districts. The intent of this zone is to provide an area for heavy industrial activities. Uses which are specifically permitted include meat packing plants, stockyards, acid manufacturing and storage, smelting, storage of gasoline, rendering plants and junk or salvage yards. Residences are excluded unless they are in conjunction with a farming operation. Uses such as hospitals, clinics and institutions for human care are also prohibited under most circumstances. All uses permitted are required to implement the best practical means available to limit the emission of dust, smoke, noise, odor and gas. Since any use not prohibited is allowed there are no accessory or conditional uses listed.

The county adopted and re-adopted subdivision regulations in conjunction with zoning. The current regulation requires that developers submit plans for Zoning Commission and County Board approval. The developer must install improvements or post bond to insure that improvements to lots will be installed before the final plat is approved. The improvements required by the subdivision regulation include paved streets on dedicated rights of way, sewer and water connections, if public facilities are available, storm sewer and survey monuments. The regulation prohibits the subdivision of areas subject to periodic flooding.

Flood Plain Regulation - Rural Woodbury County has been identified as a flood hazard area by the Department of Housing and Urban Development. The county has passed a minimum flood plain regulation and applied for the Emergency Flood Insurance Program. Preliminary flood hazard maps have been presented to the county. These maps will become official in August, 1977, if they are not appealed. The county will be required to adopt a flood plain regulation limiting and controlling development in flood hazard areas after these maps become official. If the county fails to do so they will lose their eligibility for the Emergency Flood Insurance Program. The preliminary maps indicate that areas adjacent to the Missouri River are subject to flooding. These areas may be included on the final maps.

Monona County, Iowa

Zoning and Subdivision Regulations - The County Board has appointed a Planning Commission. The Planning Commission has developed a comprehensive plan and is currently working with the Siouxland Interstate Metropolitan Planning Council (SIMPCO) to develop land use regulations. At this time,

zoning and subdivision regulations have not been adopted by the county.

The proposed zoning regulation, if adopted, will preserve prime agricultural land and provide limited protection to the flood plain. The proposal includes an agricultural district which would prohibit residential development from land which is composed of ninety percent or more soil capability classes I and II. One dwelling per forty acres would be allowed on lesser agricultural land and higher densities on poor land. The flood plain areas may be zoned as agricultural or conservation. Both districts have the same density requirements based on soil classifications.

The proposed subdivision regulations require that plats be reviewed by the Planning Commission and the Board of Supervisors prior to approval. Improvements must be installed or a surety bond must be posted prior to final plat approval by the County Board. The improvements which may be required include paved streets, storm sewer, water and sewer connections in areas served with public facilities and survey monuments.

Flood Plain Regulation - The county has been identified by the Department of Housing and Urban Development as one having flood hazard areas in the rural area. It is not currently enrolled in the subsidized flood insurance program. The rural county may not be mapped and required to participate in the program due to the small population of the area. At this time, counties with rural populations of under 10,000 do not have a high priority with regard to the development of flood hazard maps. If adopted the subdivision regulation will prohibit the platting of flood-prone areas into residential lots.

SECTION FIVE

COMMUNITY ZONING AND SUBDIVISION REGULATIONS

The following communities have adopted land use regulations and are exercising their authority along the Missouri River: Yankton, Vermillion, Elk Point, and North Sioux City in South Dakota; South Sioux City, Dakota City and Decatur in Nebraska; and Sioux City in Iowa. The community regulations contain a variety of residential, industrial, flood plain, agricultural conservation, and commercial districts. In most cases there is very little difference between the city's zoning and that of the surrounding county. Two exceptions are Sioux City, Iowa, and Yankton, South Dakota. In these communities the incorporated area adjoins the Missouri River. Sioux City and Yankton's zoning along the river includes high intensity commercial and industrial. Both communities have central business districts within one half mile of the river.

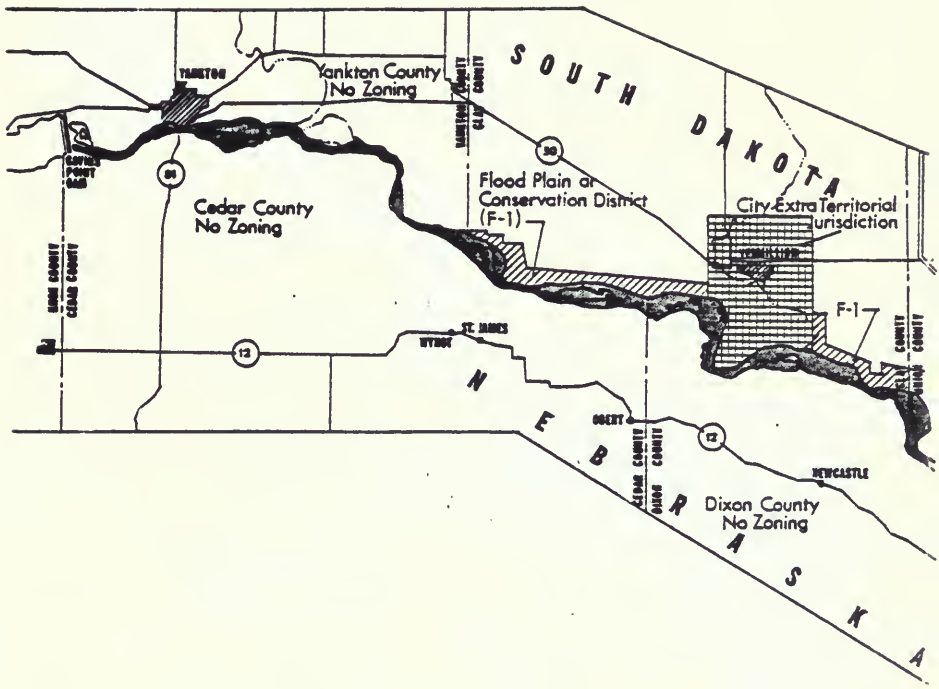
Subdivision regulations adopted by the communities require review of new plats by the Planning or Zoning Commission and final approval by the elected body.

Flood Plain Regulations

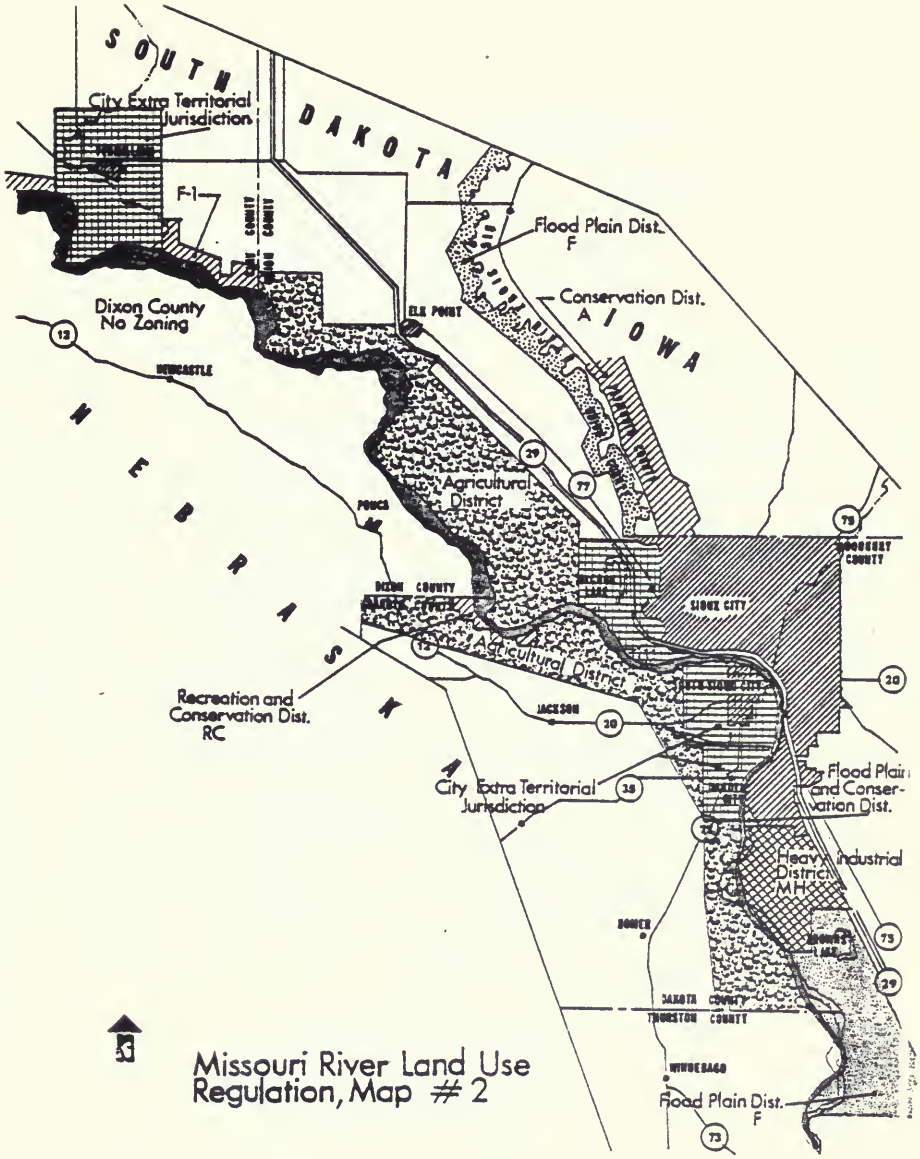
Several communities are in the emergency flood insurance program. The communities have adopted minimum flood plain management regulations as required by the Administration. The city of Elk Point has not been identified by the Department of Housing and Urban Development as having a serious flooding problem. Flood elevation and rate maps are currently being developed for Sioux City, Iowa; North Sioux City, South Dakota; and South Sioux City, Nebraska. These communities will be eligible for the regular flood insurance program after these maps are completed and additional flood plain regulations are adopted.

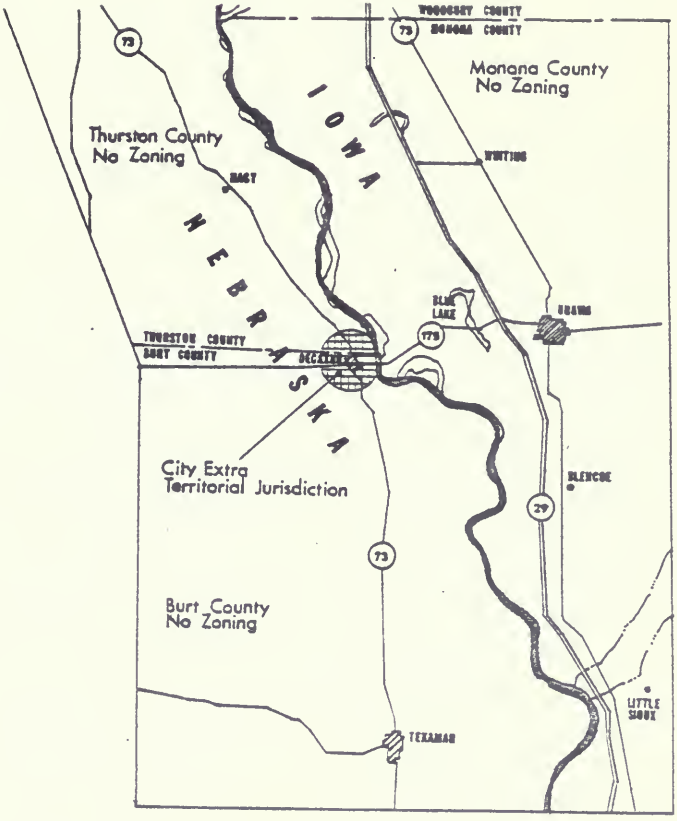
SECTION SIX

LAND USE REGULATION MAPS



Missouri River Land Use
Regulation, Map # 1


SOUTH DAKOTA
City Extra Territorial Jurisdiction
F-1
Flood Plain Dist. F
Conservation Dist. A
IOWA
Dixon County No Zoning
ELK POINT
NEBRASKA
Agricultural District
Recreation and Conservation Dist. RC
SIOUX CITY
JACKSON
City Extra Territorial Jurisdiction
Flood Plain and Conservation Dist.
Heavy Industrial District MH
DAKOTA COUNTY
THURSTON COUNTY
WINNEBAGO
Flood Plain Dist. F
Missouri River Land Use Regulation, Map # 2



Missouri River Land Use Regulation, Map #3

TABLE OF SOURCES

Federal Legislation

Rivers and Harbors Act of 1899, Section 10, (30 Stat. 1151, 33 U.S.C.A. 403).

Federal Water Pollution Control Act Amendments of 1972, Section 404, (Public Law 92-500, 86 Stat. 816, 884).

National Flood Insurance Act of 1968, as amended, (Public Law 90-448, 82 Stat. 572, 42 U.S.C.A. 4001 et seq.).

National Flood Disaster Protection Act of 1973, Federal Register, Vol. 41, No. 207, dated October 26, 1976.

Nebraska Land Use Regulation

State Agencies - Nebraska Natural Resources Commission, Revised Statutes of Nebraska, 1943, Chapter 2-1506.
Nebraska Department of Water Resources, Revised Statutes of Nebraska, 1943, Chapter 46-208 and 209.

Counties - Revised Statutes of Nebraska, 1943, Chapter 23-114, and 23-164 through 174.

Appointment of Planning Commission	23-114.01
Requirement of Comprehensive Plan	23-114.03
Elements of Comprehensive Plan	23-114.02
Zoning Authority	23-114
Public Hearing Requirement	23-164
Board of Adjustment	23-168.02

Cities and Villages - Revised Statutes of Nebraska, 1943, Chapters 17-1001 through 1003, 18-1301 through 1306, and 19-901 through 915.

Appointment of Planning Commission	18-1302
Requirement of Comprehensive Plan	19-901
Elements of Comprehensive Plan	19-903
Zoning Authority	19-901
Public Hearing Requirement	19-904
Board of Adjustment	19-908
Extra-territorial Jurisdiction	17-1001

South Dakota Land Use Regulation

State Agency - Department of Natural Resources Development, South Dakota Codified Laws, Chapter 1-40.

Counties - South Dakota Codified Laws, Chapter 11-2-1 through 11-2-35.

Appointment of Planning Commission	11-2-2
Requirement of Comprehensive Plan	11-2-11
Definition of Comprehensive Plan	11-2-1(6)
Zoning Authority	11-2-13
Public Hearing Requirement	11-2-19
Board of Adjustment	11-2-25.1
Interim Zoning	11-2-10

Cities - South Dakota Codified Laws, Chapter 11-4-1 through 11-4-29 and 11-6-1 through 11-6-39.

Appointment of Planning Commission	11-6-4
Requirement of Comprehensive Plan	11-4-3
Definition of Comprehensive Plan	11-6-1(7)
Zoning Authority	11-4-2
Public Hearing Requirement	11-4-4
Board of Adjustment	11-4-14
Interim Zoning	11-4-3.1
Extra-territorial Jurisdiction	11-6-11
Flood Plain Regulation Not Subject to Protest	11-4-5

Iowa Land Use Regulation

State Agency - Natural Resources Council, Code of Iowa, Chapter 455A.

Flood Plain Encroachment Limits	455A.35

Counties - Code of Iowa, Chapter 358A

Appointment of Planning Commission	358A.8
Requirement of Comprehensive Plan	358A.8
Zoning Authority	358A.3
Public Hearing Requirement	358A.6
Board of Adjustment	358A.10

Cities - Code of Iowa, Chapter 414

Appointment of Planning Commission	414.6
Requirement of Comprehensive Plan	414.3
Zoning Authority	414.2
Public Hearing Requirement	414.5
Board of Adjustment	414.7
Extra-territorial Jurisdiction	414.23